THE AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

"Bees work for man; and yet they never bruise
Their master's flower, but leave it, having done,
As fair as ever, and as fit for use."

"Ye light-winged laborers! still unwearied range
From flower to flower, your only love of change!
Still be your envied lot—communion rare—
To wreathe contentment round a brow of care!"

"Free as the air, yet in strict order joined,
Unnumbered bodies with a single mind!
And mingling multitudes perplex the view
Yet all in order apt, their tasks pursue."

DR. EVANS.

VOLUME XIV.

CHICAGO, ILL.:

972 & 974 West Madison Street.

1878.

THOMAS G. NEWMAN, Editor,
AL. H. NEWMAN, Business Manager.

THOMAS G. NEWMAN AND SON,
PUBLISHERS.

The White Sage of California.

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THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee-Culture.

VOL. XIV. CHICAGO, ILLINOIS, JANUARY, 1878. No. 1.

Editor's Table.

☞ Corks for honey jars should be cut across the grain, to prevent leakage.

☞ The Reports of Conventions in this issue have crowded out considerable matter that was already in type.

☞ The plant sent by Mr. Moore, of Shelbyville, Ky., is not a shrub, but an herb. It is an aster—of course good.

☞ Dr. J. P. H. Brown, is the first on hand with his Circular for 1878. It is neatly gotten up, and contains much information.

☞ It takes two years to raise teasel. It is grown by farmers to sell to cloth manufacturers. We do not think it would pay to raise for the honey alone.

☞ The time has come to prepare for next season's operations in the way of hives. It is not advisable to wait till they are needed before ordering.—Several did this last year, and as every one was in a rush just then—many were sadly disappointed. We would therefore urge all to order at once, and then time enough will be allowed to be *sure* to have them on hand when needed.

☞ As we were in doubt about the advisability of adding a Small Fruit Department, we submitted the question in our last issue. The answers are almost universal in opposition to it.—Our readers want all the energies of THE BEE JOURNAL devoted to Bees and Honey, and in this they shall not be disappointed. We shall do our "level best" to make the volume for 1878 excel all its predecessors.

☞ While at the Michigan Convention, we were entertained by friend Russell, and made the acquaintance of many Michigan apiarists. Mr. Russell has 140 colonies in the cellar, in excellent order, and a few on their winter stands. His is a combination of the movable-frame and bar-hive, and susceptible of changing size at will. For wintering out of doors, he uses heavy paper over the frames, and makes it double, by sliding the cover down over the brood chamber. One of his hives has been added to our Museum.

☞ A correspondent writes: "I see Mr. Betsinger claims to be the first inventor of a sectional hive. Barker & Dicer, of Marshall, Mich., claimed the same thing, I believe, in the AMERICAN BEE JOURNAL for March, 1874. Will Mr. Betsinger tell the readers of the JOURNAL in what year he invented his box, and I should like to hear from Barker & Dicer on the subject, also. 'Honor to whom honor is due.' I am using a section box and am interested to know who is the inventor."

☞ Friend D. D. Palmer has just returned from New York, whither he went with a car-load of comb honey, which he sold to Thurber & Co., and brought the cash, nearly $3.000 home with him. He says, honey is retailing in N. Y. at from 25 to 30 cts. per lb.—He has inspected surplus boxes of many styles on his trip, and says he had learned enough to pay him well for his time and trouble. Much of his honey was in California frames, but he wants no more to take to market that is not glassed. He spent a few pleasant hours with us, both on going and returning. A friendship of nearly a score of years made the occasion the more interesting and agreeable.

Prize Honey Boxes and Crates.

For the convenience of those who wish to have their honey in "the most marketable shape," we have had a lot of these "Prize Boxes" and "Crates" made up, and can send a crate containing 12 honey boxes ready to put on the hives, to any one who intends to make their own, and desire a correct pattern to work from. Price 75 cents, delivered at any Express office in this city.

Glass, 5x6 inches, is put on *after* the boxes are filled with honey, and before packing in the Crate. As "glass" greatly increases the express charges, we do not put it in, unless expressly ordered. Glass 10x12 cut four, and can be procured anywhere at small cost.

We can also supply these Prize Boxes, ready to nail together, for $10 per 1,000 boxes, delivered at any freight depot in the city. Crates, ready to nail together, at $10 per hundred.

Those who intend to make their honey boxes should get a Barnes saw. It is the handiest thing you can imagine. Just as we are writing this, the following letter came to hand:

"Rockton, Ill. Dec. 24, 1877.

One can do anything with a Barnes saw. Every bee-man ought to have one. I would not take $100 for mine if I could not get another. I had 20 colonies in the spring, having sold down to that number. I have received from them over a ton of honey, mostly in boxes. I am well pleased with the comb foundation, and send you a frame to show how I fasten it in.

H. W. CONKLIN."

We can supply these Saws at manufacturer's prices.

PARIS EXHIBITION.—The following letter will explain itself:

DEPARTMENT OF AGRICULTURE,
WASHINGTON, Dec. 15th, 1877.

BEE-KEEPERS' ASSOCIATION: *Gentlemen.*—It will give me great pleasure to be of service to your Association in making a proper exhibit in Paris. It is my desire to have such an exhibition of our agricultural productions as will be worthy of the interest and of the country which it will represent. I shall be glad to have the assistance of those engaged in Bee Culture in making a proper exhibit of that industry.

WM. G. LEDUE, *Commissioner.*

☞ An accident to one of the forms of type after it was sent to the press, broke off several letters and mixed up some others. Hereafter THE JOURNAL will be printed in our own office, and such "accidents" and "blunders" will be avoided.

Oldt's Hiving Apparatus.

FRIEND NEWMAN,—You say you have a model of Oldt's Hiving Apparatus. Will you please describe it in THE JOURNAL?—I, as well as many others, wish to know what it is like. H. K. W. FABIUS.

This apparatus consists of a pivoted case, containing two inclined planes that run downward from slots in the top of the casing, over which the hives are placed.—One of the inclined planes is pivoted, and is capable of moving upward when the bees, having moved from the hive to the queen yard, changes the centre of gravity of the casing, so that it turns on its pivots. A mica trap-door allows bees to escape from the swarming hive, but does not permit them to re-enter.

The hive containing the bees about to swarm is placed over one slot, and an empty hive over the other. At that time the casing is balanced by the full hive, leaving the entrance open from it to the queen-yard below. When the bees leave the hive they pass down into the queen-yard, as soon as the swarms leave the casing tops, and the entrance to the empty hive is opened and the other closed. As the queen-yard has projecting glass sides, the queen does not go with the swarm. On the return of the swarm, they will enter the empty hive—from the queen yard—and finding the queen there, will go to work. Of course, the bees must be allowed to work through the slots only.

Friend Oldt has gotten up a very ingenious contrivance that may work well in some cases. Whether it will *always* do so, and whether it will *pay* to have enough for a large apiary are problems that time and experience will solve.

LATER.—Friend Oldt informs us that he has dispensed with the lever,—and now the bees may return by the same inclined step that they used when departing.

☞ In reply to G. C. Soden's letter, on page 420 of Dec. No., T. N. Hollett has sent us a long reply, which we have no room to publish in full, stating that the queens he sent Mr. S. were unwarranted 80c queens, and not tested! He says any one can get prompt redress, by writing him personally, if not satisfied with his dealings. The particulars of a personal controversy are uninteresting to our readers, and in future we shall not publish *complaints.* When we have positive *proof of unfair dealing*, we shall, of course, state the fact, but we know our readers have no relish for personal controversies.

☞ W. M. Kellogg wishes to know the names of the best botanical works for beginners. Gray's Lessons in Botany for analyzing, and Gray's School and Field Book, are the best.

☞ By request of many, we have gotten up a "Constitution and By-laws," suitable for local Associations, which we can supply with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 is ordered, they will have a blank left for writing in the name of the association, etc. A sample copy will be sent for a 3c. postage stamp.

☞ Our Stock of Vol. 1, AMERICAN BEE JOURNL is now exhausted; so we take it from our list of Books for Sale. "The Dzierzon Theory" which we have re-published in pamphlet form, now takes its place. It contains much that every bee-keeper ought to know, and is one of the most interesting and instructive little works ever published. Its low price (only 20 cents, postpaid,) places it within the reach of all.

HOGE'S CARRIER.—Here is a case where comb honey was carried on ox-wagons, steamboats and railroads, a distance of 2,250 miles, without breakage. This is a fact worth recording, we therefore give the proof:

DEADWOOD CITY, Dec. 17, 1877.
Messrs. H. K. & F. B. THURBER & CO., N. Y. City:
Dear Sirs:—Agreeable to promise we report: The ten cases comb honey purchased of you, packed in your patent *rubber-ball* cases, shipped from New York, Oct. 6th, '77. reached Deadwood, Dec. 6th, '77, having been in transit just 60 days, traversing about 1,000 miles via railroad, 1,000 miles via lake steamer, 250 miles in dead-axle ox-wagons (24 days); 2,250 miles. When opened, *not a single comb was found to be broken.* You can *frame* this if you choose. The cases can not be subjected to a more thorough test than these were. Yours truly,
[Signed,] MILLER & MCPHERSON.

SEND BY MAIL.—We have just received a package costing us 45 cts. for expressage. It weighed only 8 oz., and if sent by mail would have come just as safely for 8 cents. This is only one of the many; and we shall thank our friends to make a note of the following: Seeds or samples of any kind of merchandise can be mailed for 1 cent per ounce. Printed matter for 1 cent for each *two* ounces. *Don't send us any small packages by express.*

☞ Subscribers will please notice the date upon their subscription labels and see that they are "up with the times."

REMOVAL.—In order to get more room for our constantly-increasing museum of implements for the apiary, we have removed our office to No. 974 West Madison St., where we have two floors 20x60 feet each. The Madison street cars (going west) pass our door, making it very convenient for those visiting the city to call on us.

☞ It is suggested that we get up a Petition to Congress to have the Postal Law amended to admit of Queens being sent in the Mails, as heretofore. We will in a few days get up Blank Petitions ready for signatures, which any one can have on application at this office, who will get them signed and returned to us by March 1st. We will then see that they are properly presented to Congress, and by a united effort try to have our voice heard. We ought to have 100,000 signatures, in 30 days. Who will take hold of the matter?

☞ In answer to H. L. Lankton's letter on page 422, Dec. No., H. Allen says there are two sides to such controverses; that he felt *insulted*, and hence wrote sharply, but will send the two queens due Mr. L. in the spring. A little of the *oil* of kind words, (on both sides, perhaps), will be productive of peace and harmony. We decline to publish, in future, details of all person, al controversies. They are neither pleasant nor profitable reading.

☞ Many complain of the dearth of small currency, all over the country. In reply to correspondents, we will say that *Postage Stamps*, of any denomination, can always be obtained at every country post-office; and when currency cannot be had, we shall receive such stamps for anything desired from this office. 1, 2 *and* 3 *cent stamps preferred.*

☞ Paper made expressly for the covers of THE BEE JOURNAL did not arrive from the mill in time for this issue. Hereafter it will have a nicer cover and be of uniform color.

☞ When you have a leisure hour or evening, why not drop in on a neighboring family and see if you cannot get a subscriber for THE AMERICAN BEE JOURNAL?

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

HOW TO PREVENT THE ADULTERATION OF HONEY.—We believe the successful solution of this problem, to a very considerable extent, lies in the hands of the producers. If we all join in an earnest effort, it will only be a question of a season or two when an end will be put to this nefarious business. We want through our local papers and personal intercourse to school dealers and consumers in selling and buying *candid* honey. Ring all the charges of purity, flavor and price.—Packing comb honey into glass jars opens the door for adulteration; now, we want to stop this, and we can effectually,—but we fancy that we hear some dealers sing that same old song that "broken, comb honey must be saved, and this is the only way to do it." Producers will stop sending broken combs, stop shipping piece boxes, extract the honey from all such, and market only those frames, or caps that are well secured all around. Such honey can be transported all right.—Harbison never has any claims against him for broken honey, and he collects his crop from all over San Deigo county, California, sends it to San Francisco where he breaks bulk, and re-ships to New York. It is said his combs are seldom broken. He attributes his success to the fact that he never crates frames in which the combs are not well-secured all around, and cells capped. If producers would all do that, their honey would reach consumers nice and dry, and dealers would hear no excuse for cutting up the combs and packing them in jars.

Strained honey sells for 40 and 45 cents per gallon in San Domingo and Havana.

The amount of sugar annually consumed in Great Britain is 900,000 tons, being about 60 lbs. for every one of the population. Raw sugar, when imported, contains from 2 to 3 per cent. of impurities. Three tons of stones have been found in a single cargo. A case was lately before the Circuit Court of Glasgow, which showed that arsenic was mixed with sugar. A captain was charged with causing the death of several seamen by serving out putrid pork to them, but, on the sugar being analyzed, it was found to contain sufficient arsenic to cause death. This sugar was supplied to the ship at Collao. And still people prefer sugar, and sugar syrup to honey.

CANDIED HONEY.—The question is so frequently asked, how to prevent honey from candying, and with such seeming desire to possess the secret, that we have determined to gratify the curious, and tell them all about it; but we wish to preface our information with the assurance that we discountenance, as disreputable, the adulteration of honey in any shape or manner. The candying of honey is caused by the over-saturation of sugar; by this expression, we mean too little water, and too much sugar. All the scientific research and learned discussions on this subject that has ever come under our observation have failed to develop a more simple or rational reason than this, and the same can be said regarding the remedy. You first reduce the body to a thin limpid state by adding sufficient water. It is only necessary to warm the honey to thoroughly incorporate it with the water; it need not be boiled. This makes the body so thin that it is necessarily impossible for it to candy.

Buyers object to it in this watered state, and in order to retain its body without renewing its liability to congeal,—some have been adding a sufficient quantity of that non-crystalizable substance, known as glucose. Honey thus "processed" will not thicken, but it is certainly *not* pure. It is claimed, and we have no doubt it is true, that by the aid of this "processing," thousands of pounds of comb honey, nice in itself, but stored in such awkward and unsightly surplus receptacles, furnished by lazy and improvident bee-keepers, has been sold, that would otherwise have proved a drug. This is an excuse—though only a poor one, for such "doctoring" process.

Capt. Hetherington has three grades of honey. "C" indicates his perfectly filled white combs of clover or linden.—The "B" is his buckwheat, while boxes that are stored with more than one kind of honey are indicated by an "X." Thus far, he has shipped 36,800 lbs. of "B;" 10,500 lbs. of "X;" and 7,250 lbs. of "C;"—2,271 cases in all!

Any questions that may be asked regarding the packing, selling and shipping of honey will be answered in this department.

Chas. Parlange, Esq., of Pointe Coupee, La., who works his apiary entirely for extracted honey, has shipped Thurber & Co. more than 100 bbls. this season. The bbls are wooden bound, and hold about 50 gallons each. Mr. P. is one of the leading lawyers of his state.

Our Letter Box.

Hamilton, Ill., Dec. 10, 1877.

"We will add our testimony to that of others in favor of granulated, extracted honey. We raised 7,000 lbs. of it, and it is nearly all sold at 10@12c. per lb."

CH. DADANT & CO.

Lexington, Ky., Dec. 11, 1877.

"The JOURNAL surpasses itself; each issue is an improvement over the last, in the bright, cheerful appearance and instructive influence of its whole composition. Long may it live!" W. WILLIAMSON.

Grand Rapids, Oct. 29, 1877.

"My bees came through last winter in a fine condition, not losing one, and they have netted me about $20, in bees and honey, to each hive this season, and supplied themselves with sufficient food for winter."

G. W. DICKINSON.

Fulton Co., Ill., Nov. 22, 1877.

"I have just built a bee house 52 ft. long, 7 ft. wide and 8 ft. high. I have stored 50 hives, (double tier), and hope they will winter well. I have 50 colonies out of doors; top of caps filled with chaff, and shall thus try both ways." H. HAINES.

Holt, Mich., Dec. 10, 1877.

"The past season was a poor one here.—Each hive had about 1 super filled. Early honey was very white. They weigh from 40 to 45 lbs. each. The fall crop was nearly a failure. We had 40 hives; increased to over 100. I have sold my honey.

JNO. L. DAVIS.

Rochelle, Ill., Dec. 16, 1877.

"I have 31 colonies in good condition; 25 of them in the cellar and the others packed in straw. Those in the cellar are all right now. I use the Langstroth hive, and left the caps on the hives, but nothing on the frames. I have had no experience in wintering in cellars, having always left them on their summer stands. C. S. HUBBARD.

Milledgeville, Ill., Nov. 26, 1877.

"THE AMERICAN BEE JOURNAL for Nov. was received in due season, and read with usual interest. The New York Convention was a grand success, and the discussions were of great moment. There is as much in selling as in producing, in our business, in a financial point of view."

F. A. SNELL.

Platteville, Wis., Dec. 7, 1877.

"I have 100 colonies, and cannot get along without THE BEE JOURNAL. I had 50 last spring, and got 400 lbs. comb honey in boxes, and 7,000 lbs. of extracted, besides doubling my colonies, which are strong and in good condition for winter. I built a bee-house, but it is not ready for bees this winter. I have had good success in wintering on summer stands. I use frames 13x21. I have some 15x18, but do not like them as well. I have from 9 to 11 frames in a hive in the summer, and about 8 in the winter. The space between the frames and the end of the hives are filled with chaff and straw; also the cover." E. FRANCE.

Bloomington, Ill., Dec. 5. 1877.

"I have just finished reading the Nov. number or THE AMERICAN BEE JOURNAL. Am much pleased with contents, especially the essay on the management of the apiary. I think that one article alone worth the price of subscription for a year. I have in winter quarters 64 colonies on their summer stands, and believe in quilts, partitions, Italians and the slinger."

WILL. H. WOLCOTT.

DeKalb Junction, N. Y.

"In this locality, this has been a very poor season for honey. The grasshopper and drouth killed every thing in the line of bloom, as well as all kinds of fodder.—Have gone into winter quarters with 94 colonies; some in rather poor condition.—They are 23 miles from my residence, and I think some may die before spring. I have wintered 165 colonies in my home apiary without losing one." IRA BARBER.

Gardiner, Me., Dec. 10, 1877.

"In this part of the state we have had one of the poorest seasons ever known for honey. My bees began to swarm about a month earlier than usual, but the drouth in June stopped all swarming and storing of honey in the boxes. Black bees have done nothing. Bees are generally in very poor condition for winter, and the losses will be heavy. Dec. 1st, I put into winter quarters 61 colonies with sufficient stores to carry them through, but not as strong in bees as usual." O. L. SAWYER.

Des Moines, Iowa, Nov. 30, 1877.

"On Thanksgiving day I prepared my bees for winter—placing them closely in rows, the better to enable me to watch them and see that their entrances are free from snow, ice, etc. Tight board fence on the north and straw over and around them affords them all the necessary shelter. I use Finn's Double-Walled Porous Bee Hives. For 20 years in Mass. I have wintered in cellars, generally losing half of them. I now go into winter quarters with 22 in Langstroth frames, but double-walled hives—they are light in bees and honey. I expect to winter every colony and bring them out in March healthy, with combs dry and brood plenty. I expect to go more largely into the business next year, and will report how I prosper." W. CLEMENT.

Oneida, Ill., Dec. 8, 1877.

"Last spring I went to Benton Bay, Miss., to take charge of an apiary there; taking my own bees there also, I began with 6 light stocks and 3 nuclei; increased to 20 good strong stocks. Had 1 swarm and 1 queen given me by friend McGaw. Got 647 lbs. of honey, 332 lbs. of comb, and 315 lbs. of extracted. My folks at home have 2 swarms, so we are back to our old number 22, that we had a year ago, losing 13 last winter by the bees indulging too freely in cider. My employer, Levi Hollingsworth, began with 108 stocks, increased to 172, and got 6,100 lbs. of box, and 911 lbs. of extracted honey; most of which was shipped to Columbus, O. The fore part of the season was backward, cold and rainy; and the most of the surplus got was from fall forage. I expect to go down there again next year, as I like it there first rate."

WILL M. KELLOGG.

Owen Co., Ky., Dec. 11, 1877.

"I have received the BEE JOURNAL regularly for the past 3 or 4 years, not a number missing. I prize it very highly, and if it should fail to come at the proper time, I should feel as though a dear friend was absent. I have been taking papers since 1840, but never have patronized one conducted in a more commendable way than THE AMERICAN BEE JOURNAL. I commenced the season with 16 colonies, increased by natural swarming to 41, and got about 100 lbs. of comb honey. They now look well. I would be glad of many things I see advertised in THE JOURNAL, but the Express companies have so little mercy, in charges, that I am compelled to do without them." G. W. JENKINS.

Fabius, N. Y., Dec. 10, 1877.

"I notice on page 365 that teasel is mentioned as producing the whitest, and nicest honey. I have had experience with all kinds of honey-producing bloom, (the teasel included), and find nothing quite equal to basswood honey for flavor or whiteness.—For 2 years past no teasel has been raised in this vicinity, but our honey has been nice and white. When teasel was raised here, some honey was dark; caused by the small teasel blossoms drying and becoming colored by the rain. Teasel produces a large crop of honey of good quality, but I think not quite equal to basswood."

H. D. MASON.

[The past season was dry, and perhaps that accounts for the teasel honey being so good. There being but little rain, the small blossoms did not become colored and stain it. *In other* years this might have been otherwise, and both contradictory experiences may be perfectly correct and harmonious.—Whatever may have been the result in other years, in the past season it certainly gave a large yield of good honey.—ED.]

Maysville, Ky., Dec. 9, 1877.

"I commenced the spring with 3 colonies, in Langstroth hives; all are in fair condition. I commenced feeding, March 10; increased, by artificial swarming, to 10 colonies. One swarmed and went to the woods, led by an imported queen. I sold one colony; from the remaining 9 I took 500 lbs. of honey—all extracted, except about 50 lbs. of comb. The season was the best that we have had for years. My 9 hives are packed in straw on their summer stands, under a shed 8 ft. wide, and 32 ft. long.—When extracting, the washings of the articles used about the Extractor was put in a stone jar, and set out in the sun to ferment, to be poured into the vinegar barrel. I neglected to cover it up, and flies got into it, and it was ruined. In a day or two, I noticed that it was covered with millers. I skimmed them out, and at night set the jar with the same water near the bee hives.—I examined it next morning, and skimmed out 52 millers. I removed it during the day, and set out again at night, and caught 31. The following night, I caught 5. I frequently placed the jar near the hives, during the summer, at intervals, but never succeeded in catching more than 4 or 5 at a time." WM. W. LYNCH.

Keokuk Co., Iowa, Dec. 15, 1877.

"My bees did well this season. We had nearly 2,000 lbs. of honey from them. They are in winter quarters, in better condition than usual." SELMIRA L. VAIL.

Opelousas, La., Nov. 30, 1877.

"What is the best way to handle queens when cutting their wings? I am fearful of injuring them, when holding them with the fingers. I have an idea that a drop or two of honey from a small oil can would so retard a queen that her wings could be cut without touching the body."

J. W. JACKSON.

[The queen should be handled by the wings or upper portion of the body—never by the abdomen. The queen may be retarded as you suggest.—ED.]

Davis, Mich., Dec. 11, 1877.

"A wax comb guide may be no new thing. I have read THE AMERICAN BEE JOURNAL for 2 years, during which time much has been said in regard to frame guides. The wax guide can be made by placing a straight edge on the top bar, wetting the straight edge lightly with a sponge, so that the wax will not stick to it; keep the bar dry. Hold it on an incline, so that the wax may be poured on with a spoon.—You can tip it, so that it will run fast or slow, making a light or heavy guide, as desired. With a little practice, this can be done rapidly. I use this guide; the bees accept it readily. I can put in the wax guide in one-half of the time required for the wooden guide, and it is much better.—I prefer it to comb foundation as a guide only." WM. P. EVERITT.

Noble Co., Ind., Dec. 10, 1877.

"In the spring, I had 60 colonies out of 75 put up in the fall. I increased to 107; got no surplus; I worked against increase all I could, and tried for box-honey, but got none. Cause, poor season,—the worst in 25 years. Fed in May. Bees gathered honey briskly in June. In July and August they consumed what they gathered in June; but increased their stores sometime in September. I have some 45 stands with about 25 lbs. of honey; the rest very light. I sold some, and took 26 stands of bees to feed others with. I got only 50 lbs. of honey from them. I have 20 colonies that I think will starve before spring. Such is the condition of most of bees in this county. I anticipate great loss of bees by starvation this winter. I had 3 swarms of black bees, with some trace of Italian blood among them, to come and settle in my bee yard. One had a beautiful yellow queen with them. I hived them; they went to work July 31st. Young bees hatched in due time, all pure Italian. Query: Are those bees pure Italians when their queen came with black and hybrid bees? Why did this swarm come and cluster in my bee yard? Please answer. Are there black bees in Italy?" F. R. DAVIS.

[If the queen was pure and purely mated, her progeny is pure, no matter in what company she may be. Most likely, she had been recently introduced to the colony, and led off the swarm. Not finding any better place to cluster, they favored you with a call. There are black bees in Italy.—ED.]

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

For the American Bee Journal.

A Great National Industry.

Agriculture in its various branches, mining, and manufacturing, are the great industries which lie at the foundation of individual and national wealth. They are the great producing factors. Upon them all other pursuits depend. To add to these another productive calling, which can be followed by any who desire, in all parts of our country, will be to add to the general wealth, and to give a means of competence and happiness to our people. The modern improvements in bee-keeping—including the movable-comb hive, the honey extractor, comb-foundation, and the safe methods of wintering—make it a pursuit which may be indefinitely developed. Indeed, it may be so followed, that, from its wide diffusion over our country, and from the value of its products, it may be truly called a great national industry.

1. The products of some kind of labor, for instance some branches of fruit-growing, are so perishable that they must be sold as soon as ready for market, and as they will bear transportation but a short distance, the producer is put to a great disadvantage. The products of bee-keeping, honey and wax, may be kept an indefinite time, and may be transported to all parts of the world.

2. The demand for honey and wax may be increased beyond all of our present conceptions. Since the great success of comb-foundation, there is no doubt but all the wax produced will find a ready sale at advanced prices. Honey, at present, can scarcely be called an article of diet. It is a luxury met with now and then; but in the larger number of families, hotels, and restaurants is never seen. When its excellence and cheapness as an article of diet becomes known, it will be more widely used, and all that can be produced will be readily consumed.

3. Bee-keeping can be followed in all parts of our domain, north, south, east and west. In nearly all localities bees will do well. There is scarcely any locality in which they will not more than pay their way. In the country and in villages, there is little probability of over-stocking for years to come. In case a locality becomes over-stocked, some keepers must remove to unoccupied territory. In cities, a few hives can be profitably kept, as is shown by the good success of Mr. Muth, of Cincinnati.

4. Any intelligent person, who will give attention to it, can learn the business of bee-keeping. The theory of it is plainly taught in books and the BEE JOURNAL. The practice can be acquired by any intelligent person who will get a hive of bees and go to work to apply the theory he has learned by careful reading.

5. The business can be begun with small capital, and on a very small scale. Any industrious person can get one, or a few swarms of bees in box-hives. He can transfer them to movable-comb hives. Then as he acquires knowledge and skill in the work, his bees will increase. He can make his income from his bees more than pay all the outgo, and soon have a stock as large as he desires, as the product of the one or few with which he begun.

6. If he desires, he can increase his business to any extent. His own hives will give him the bees. He can establish apiaries at as many points as he chooses. He can superintend these apiaries, and attend to purchases and sales. Followed in this way, bee-keeping may become a business demanding the best efforts of the ablest business men. The report is just at hand that Capt. Hetherington, of Cherry Valley, N. Y. has 3,000 colonies, and that his income from them the present year will be about $30.000. This is only an instance of what may be done by many others.

7. No business can succeed in the long run which does not give a fiair profit.—Without going wild over the reports of the immense profits realized in a few instances from keeping bees, there seems no doubt that when taken up as a regular business, and intelligently pursued from year to year, it will pay a profit as large as most other callings. Possibly, for a few years, men already in the business, and following it with energy, may make a larger profit than most other callings give. But this will not continue long. Labor and capital will flow in this direction until profits are equalized.

A calling that produces valuable staple articles, that may be followed in all sections of the country, of which intelligent people can readily acquire the theory and the practice, that may be undertaken on a small scale and with a very small outlay, that may be developed to such dimensions, as to give scope to the powers of the ablest business men, and that yields a fair profit on the investment,—such a pursuit surely has in it such elements as may enable it to grow into an industry that may truly be called national.

But it is said by some that there are such great risks to be run in bee-keeping, that the business partakes of the nature of a lottery, and that no such business can become of national importance. These objectors will enumerate the moth, foul-brood, poor seasons, dangers of wintering, and over-stocking the market, as good reasons why the business of keeping bees can have no large development.

1. As to the moth, the bee-keepers, who have had the widest experience. say, that it gives no trouble when Italians are kept in hives that have no lurking places for the enemy. Upon this point the testimony is, in effect, unanimous.

2. Foul-brood has been in some places a serious difficulty. But care can, in most cases, keep it out, or eradicate it when it appears. Some of the best bee-keepers, who have had to contend with the disease, tell us that salicylic acid, used according to their direction, is a sure cure.

3. Poor seasons are an injury, but poor seasons come to nearly every business,—to bee-keeping no more than to others. In calculating the profits of bee-keeping, we must make allowance for poor seasons. After making this allowance, the experience of the best established keepers shows a good profit.

4. The dangers of wintering seem about to disappear. Perhaps it is not too much to say that they have disappeared. Those

that have been sure in the fall of young bees and healthy stores, and who have given them suitable protection, either in doors or out, report success. They tell us, they have no fear of wintering. Young bees, healthy stores, and proper protection can be secured by the intelligent bee-keeper. He can be sure of them. They are entirely under his control. Hence, it does not seem rash to say that the dangers of wintering are, for the intelligent, energetic bee-keeper, among the things that were.

5. Lastly, we have the objection that the markets will be overstocked, and hence prices will fall below a paying basis. This objection has been so earnestly urged that it is worth while to look at it somewhat closely, which I propose to do in a subsequent essay. I will only say here, that the history of nearly every business shows that as the supply of an article increases, and the prices fall, the demand increases so largely as to make the aggregate profits greater than they were when the production was less, and the prices higher. So in regard to honey; if the prices fall a good deal below what they now are, this reduced price will cause honey to be taken by large numbers, who now do not use it at all; and this consumption will so increase the demand, that the producer can sell 50 lbs where he now sells 1lb; and so make much larger profits, in the aggregate, in spite of the lower prices.

The arguments in favor of bee-keeping becoming a great industry of national importance seem to me to be clear and strong. The objections do not seem to be well taken. I think there is no doubt but capital and intelligent labor will be attracted to this business, and that in the course of a quarter of a century it will have a growth that will surprise us all.

Keokuk, Iowa, Dec. 5, 1877. O. CLUTE.

For the American Bee Journal.

Grape Sugar.

A great deal of attention has, of late, been directed to the use of grape sugar as a cheap substitute for honey for wintering bees.—As the solid crystaline portion of honey is pure grape sugar, there is no reason why a pure article of grape sugar should not be a perfect substitute for it. Perhaps there are some who would like to experiment with it, and as it may be more convenient for them to manufacture it themselves, than to buy, I will describe a process for manufacturing it on a small scale

Grape sugar is most economically prepared by artificially modifying starch.—This can be done in two ways, which I will describe:

To 10 parts starch, (or bolted white corn meal) add 1 part bruised malt and 40 parts of water, all by weight. Heat the malt and water to about 150° fahr., and then add the starch, stir constantly and raise the temperture to about 170° fahr., and keep at this degree until the starch is all converted, and when all complete, bail, filter, and reduce to a syrup. This is glucose or impure grape sugar. It contains a great deal of mucilage and is very much inclined to sour.

The best process, although a little more troublesome, is as follows:

25 parts of starch will require about 100 parts of water, and 1 part of oil of vitrol.—The acid should be diluted by adding it slowly to about 10 times as much water, in an earthen vessel.

Put the water into a copper kettle, on a wooden tank, heated by a copper steam coil, (don't use any other metals, excepting lead,) bring it to a boil, then add the diluted oil of vitrol, and while the liquid is kept boiling, gradually add the starch, which should be mixed with water enough to make it of a creamy consistency. Avoid lumps, and be very careful and *do not let it burn* during the process of boiling, as that will render it *poisonous to the bees.* Replace the water as it evaporates. The starch is first converted into *dextrine.* It will require from 6 to 8 hours continuous boiling to thoroughly convert it into grape sugar. The acid does not unite with the starch, but only acts by its presence. When the convertion is complete, the acid must be thoroughly removed by the addition of pure carbonate of lime.—A good article of powdered chalk will do.—Add it in small quantities until the liquid ceases to effervesce upon the addition of more chalk. Stir the liquid while adding the chalk. It will require a little more chalk than the oil of vitrol used.

After neutralization, the liquor should be strained into a tub, to allow the gypsum, or sulphate of lime, to settle; which will require about 24 hours. Keep the vessel closely covered, and use every precaution to prevent souring. The clear liquor should be drawn off and evaporated to the consistency of syrup, again allowed to settle, and then reduced further if you wish it to crystalize.

The above process will do very well for bee food, but it will be too dark and impure for a commercial article, and requires to be filtered through animal charcoal to whiten it.

Now let every body try their skill, and let us hear the result. If grape sugar is a reliable substitute for honey, and only costs 2 or 3 cents a pound, we can extract every drop of honey from the comb and winter on grape sugar. S. C. DODGE.

Chattanooga, Tenn., Oct. 25, 2877.

Mr. S. Scott Hammitt, College Hill, Ohio, inquires:

1. Do you have Clover and Linden with you?

Yes, in abundance. We also have a great quantity of Poplar, by some, called Tulip. From this we get our first crop of honey.—Its yield some years is very large, and in flavor, we think, far supasses any other kind of honey. In color, it is classed as dark.

2. Are there many bees kept in and around your vicinity?

At a guess, I would say, that there are about 1,000 colonies in Maury Co.

3. Would it pay to embark in the business there?

To make it an exclusive business, I hardly think it would.

4. What do Italian bees sell at per colony?

From 5 to 10 dollars.

5. What is good land worth in a small way?

From 25 to 100 dollars per acre.

6. Do you know anything about Florida? I do not.

7. Can you inform me of any locality that I could go to where pasturage is good? You will find bee pastureage good in nearly all pastures of middle and east Tennessee. You will probably find lands cheaper in east Tennessee. We have quite a number of inquiries concerning that portion of our state, but we are not sufficiently acquainted with it to give the desired information. We refer all making inquiries about that section of our state, to our friend S. C. Dodge, Chattanooga, Tenn.. whom we know will cheerfully respond to any letters addressed to him. W. J. A.

FRIEND ANDREWS, we have been confined to our room and bed for one year, and after suffering the pains and aches subject to this life, we had finally to submit to the amputation of our right limb; but we are happy to say that we are again up, and feel as buoyant as a boy, and hope hereafter to occasionally send some items for the JOURNAL. A. F. MOON.

We are right glad to hear from friend Moon again, but sorry to learn of his suffering and misfortune in the loss of one of his limbs. We are well prepared to fully sympathise with one in his condition, for we have not been able to raise our right arm since 1868. W. J. A.

☞ Dr. G. D. Lawrence, Cedar Bluff, Ala., writes that he started in the spring with 13 colonies (4 weak and 2 queenless). He increased to 30 and got 40 to 60 lbs. honey. He intends to increase to 100 next season.

W. H. Green, Sparta, Ga., writes: Bees have done well. Extracted 1,000 lbs. of honey from 5 colonies.

Dr. Larch, Ashland, Mo., writes: Have 14,000 lbs. of choice honey, averaging 110 lbs. to the hive. Season only a poor one.

A. F. Moon, Rome, Ga.: Bees done well; wintering on summer stands, with not even a honey board on them. Since Dec. 6, bees have been carrying in pollen freely. Some colonies have brood, and all are dry, sweet and lively.

In *Annals of Bee Culture*, Mrs. Tupper stated that she succeeded, in 1870, with 27 queens, more than nine-tenths ot the time she attempted it. She further stated that during that season she did not fail in a single instance when she tried. If these are facts, is there not enough of genius among our bee keepers to make this a success? We have hundreds of bee keepers that are as well qualified, who understand all branches of bee culture, as well as Mrs. T. Then let their light shine. A. F. MOON.

We never like to assert that a thing can't be uone; but as to fertilizing queens in confinement, we do emphatically say we don't believe it, nor never will believe it until we have a practical demonstration of the fact—any essays to the contrary notwithstanding. W. J. A.

Twenty-Five Dollars Premium.

I will give $25 in cash for a successful method of fertilizing queens in confinement, the test to be made by three practical and disinterested bee-keepers. I want no essays about the matter, but facts demonstrated by experiments. A. F. MOON.

☞ In a note dated Nov. 22, Miss Anna Saunders writes us of the death of her favorite niece.

We extend our warmest and most heartfelt sympathies in this, her sore bereavement. W. J. A.

☞ I had 4 queens hatched in Oct. They were small but well bred; the weather continued cold and wet for over 21 days, so that no swarms flew. These queens, strange to say, were fertilized on the 23rd day after being hatched. A. F. MOON.

North Eastern Bee-Keepers' Ass'n.

The North-Eastern Bee-Keepers' Association will hold its Annual Meeting at the City Hall, Syracuse, N. Y., on the 6th, 7th and 8th of February, 1878. First session at 1 o'clock, P. M., of the 6th.

Papers on important subjects are expected from some of our own members, as well as from eminent apiarists abroad. Among those may be mentioned an essay on "Recently Discovered Parasites of the Honey Bee, and their Connection with Successful Wintering."

The Marketing of Honey will receive special attention, and it is expected that initiatory steps will be taken toward supplying each member of the Association with reliable data of much importance to honey producers. To secure satisfactory results, a full attendance of this class is especially desired. P. H. ELWOOD, Pres't.

J. H. NELLIS, Sec'y.

BEE POISONS IN MEDICINE.—Diptheria, which in North America, England, and the coast lands, has for years been epidemic, is also becoming common among us, and during this damp, cold winter, particularly, it has manifested its malignancy. The symptoms of this disease may be known to our readers, but it is not as probable that the fact is known that *apis* (bee poison), has been used with excellent results in cases of this malady. This remedy is also successfully employed in cases of scarlet fever; in dropsy, particularly, which often appears after scarlet fever; in eruptions of various kinds; diseases of the eyes; dizziness; palpitation, and other complaints.—Just here, I cannot refrain from mentioning the view of a homœpathest, who recomends as a preventive of croup, scarlet fever, and eruptions common among children, the use of comb-honey. The combs, which, in their removal from the hives, have the bees brushed from them, (not smoked off), become in a certain measure infected with the bee poison; for the sudden pressure causes the stings of the bees to be thrust out involentarily, and the poison moistens the combs, upon which fact he bases his view.—*Schlesische Imker, Troppan, Lower Silesia.*

Correspondence.

The Secre of Successfu Bee-keeping.

To be successful, the apiarist must have a simple, movable, frame hive of some kind; and for box honey, the brood chamber should not contain over 1550 cubic inches inside the frames. All know that bees gather honey, and that the eggs laid by the queen produce bees, consequently the more eggs the queen lays, the more bees we get; and the more bees we have, the more honey they gather. In fact, the queen is the producer of the honey. Therefore, if we wish good returns from our bees, we must see to it that we have good prolific queens, and that they fill the combs with brood before the honey season commences, so that when the honey harvest comes, the bees will be obliged to place the honey in the boxes, as there will be nowhere else for them to store it.

But how shall we secure combs full of brood, and plenty of bees to carry on the labors of the hive by the time our honey harvest begins? As soon as spring opens, our bees should all be examined by lifting the frames of each hive, and if the stocks are weak, the bees are shut to one side of the hive by means of a division board, so as to keep up the necessary heat for brood-rearing, on as many combs as they can cover. As soon as the queen has filled these combs with eggs, we spread them apart, inserting an empty comb between those occupied with brood, and in a few days' time the queen will fill this one also; and so we keep on until every available cell is occupied with brood. Thus it will be seen that instead of the queen laying her eggs on the outside of the cluster, she lays them in the center of the brood-nest, where they should be. After the hive is full of brood and bees, it does not make so much difference, as the weather is warm, and bees are plenty, so that the queen can deposit her eggs anywhere in the hive.

As soon as the strongest stocks are full, take a frame of brood just gnawing out and place it in the weaker ones, giving the strong one an empty comb for the queen to fill again, and so keep on until all are full.—When this is accomplished, put on boxes; and, as we said at the commencement, if any honey is gathered it must be put in the boxes. Each box should have a small piece of comb attached to the top as a "starter," to get the bees to work more readily in the boxes; the center tier of boxes, if possible, should be full of comb, left over from the previous year. As soon as the first few boxes are filled, they should be taken off, before being colored by the bees passing over them, and empty ones put in their places, thereby causing the bees to work with renewed vigor to fill up the vacant space left where the full ones were taken out. And thus we keep taking out full ones, and putting empty ones in their places as long as the honey season lasts.

This, in short, is the way we work our bees to secure the yields of honey which trouble Jno. Fox so much. Please say to your Otisco Valley correspondent that we fear he has not observed closely about teasel honey. We were told when we first commenced to keep bees, that teasel honey was dark, but after 9 years of experience we will say we never saw any dark honey gathered from teasel. We have caught bees while they were at work on the blossom and killed them, only to find their honey sacs filled with white honey; and we have extracted when basswood was a failure, with plenty of teasel honey, only to find it white. In short, we never got a pound of dark honey from our bees, when teasel was in bloom. It is the whitest honey we know anything about. G. M. DOOLITTLE.

Borodino, N. Y., Dec. 11, 1877.

Comb Foundation for Starters.

FRIEND NEWMAN:—I could not do without THE JOURNAL, in the management of my bees, and I cannot see how any one else can, and keep up with the times.

I see there still exists a great difference of opinion with regard to comb foundation, as to the advantage of using it in boxes, etc. I tried some yellow foundation this season, and had good success with it. I tried it in boxes, and also in the brood chamber, and had no trouble with ragged or thick comb. They worked it out, I think, as thin as any natural comb.

I do not think a frame or a box ought to be filled full of the foundation, especially thick foundation, for they will have too much wax to work up and remove. Consequently, when honey is coming in rapidly, they will commence putting it in the cells before they have thinned it out as it should be. This, I think is one reason of so much thick comb, or rib in the honey boxes.—Now I put narrow strips of foundation in my boxes, reaching to the bottom of the box, serving them as a ladder to the top of the box, and also as starters for the bees.—In the brood-chamber I put 3 or 4 small starters of the foundation in each frame the shape of a triangle, and about 3 in. long. Starters put in this way, the bees build out and I think if you will give this method a trial, you will find they will build it out as thin as natural comb; I think foundation used in this way is of great value in getting straight combs in the brood chamber, and also for starting bees in the boxes, and producing large quantities of box honey.

I have just read an article in the last issue, from James Heddon, in which I fully concur with him. I believe, as he says, we ought not to induce every one that has tried some other pursuit and failed, to try bee-keeping. Especially those that are hunting *easy labor* and *large profits*, for they will *be sure* to fail.

I believe we ought to look to the sale of our honey as one of the most important items in bee-keeping. How often do we see persons that have been induced to try bee-keeping, when they find that there is a great deal of labor and attention attached to it, take no interest in it; take their honey, as Mr. Hedden says, in tubs and pails, all mashed and broken up, going around to the grocery, and take just what is offered for it; often as low as 6, 8, or 10 cts. per lb. for comb honey. Now, this is to some extent injurious to the sale of our own honey, and I for one, am for building up, not for pulling down our own interests.

My father and myself commenced with 60 hives this season, and 20 of them were very

weak; the remaining 40 were in tolerable good condition. These we run for extracted honey, averaging 150 lbs. per hive; making in all about 6,000 lbs. Our honey was a little dark, but of good quality. We sold most of it at retail, getting 15 cts. per lb. We increased our bees to 80 colonies, and they have plenty of honey, and so far in good condition for winter. I will close by wishing you a "a happy and prosperous new year."

WM. BENCE.

Newbery, Jefferson Co., Ky.

For the American Bee Journal.

New Races of Bees.

Some years ago an article appeared either in THE AMERICAN BEE JOURNAL or in one of our agricultural papers, giving an account of a bee on the Amoor river, that was thought would prove of value in this country. Has anything further been heard of it?

Correspondence has been opened by several American bee-keepers, to obtain information about *Apis dorsata*, of Java, and I hope soon to have something to communicate respecting it.

I received a letter to-day from a gentleman who is skillful in handling bees. He thinks of going to Europe in the spring, to import the Cyprian bee for himself and to fill several orders from friends; and I know of several who have ordered them from German breeders. So there is a fair prospect of having them tested here the coming season.

Honey is now put upon the market in such attractive form by our best apiarists, and such skill has been attained by a large number in the practical work of the apiary, and that number more rapidly increasing every year through the knowledge spread by our journals, that we must look in new directions for advance in our persuit. Science must come to our aid and suggest new methods of culture. New races must be tried. Much remains to be done before we can feel assured that we have reached the best results.

I would here return my thanks to Mr. Benton for the interest he has shown by translating Mr. Edward Cori's article on *Apis dorsata* for the AMERICAN BEE JOURNAL.

Shortly after the publication by the Harpers of Alfred Russel Wallace's Malay Archipelago, 1869, I sent seme extracts to the JOURNAL on *Apis dorsata*. As an interest is springing up in this bee, both here and in Europe, I think it desirable to publish them again, that a greater number of readers may enjoy the promising facts given, which I consider even more encouraging than the statements given by Mr. Cori.

Wallace found this bee on the Island of Timor, and mentions bees or their products in Borneo Celebes, Gilolo, and the Aru Islands. Possibly *Apis dorsata* exists on many of the Islands, as well as in Java and Timor. Mr. Woodbury, of England, received specimens of this bee and comb from Ceylon, but failed to import it.

In visiting a house in Borneo, Mr. W. writes: "Almost all the people, however, were away on some excursion after bird-nests or bees-wax." .... The honey bee of Borneo very generally hangs its combs under the branches of the tappan, a tree which towers above all others in the forest, and whose smooth cylindrical trunk often rises 100 ft. without a branch. The Dyaks climb these lofty trees at night, building up their bamboo ladder as they go, and bringing down gigantic honey-combs. These furnish them with a delicious feast of honey and young bees, besides the wax which they sell to traders, and with the proceeds buy the much-coveted brass wire, ear rings and gold-edged handkerchiefs, with which they love to decorote themselves. In ascending durion and other fruit trees which branch at from 30 to 50 ft. from the ground, I have seen them use the bamboo pegs only, without the upright bamboo, which renders them so much more secure."

Mr. W. describes very minutely how the pegs are driven in the tree, and the bamboo ladder formed as they ascend these gigantic trees. One of the illustrations, (p. 204), copied from a photograph, represents a Timorese with a small water bucket in one hand, made of an entire unopened palm leaf, and in the other a covered bamboo, which "possibly contains honey for sale" .... Besides ponies, almost the only exports of Timor are sandal wood and bees-wax.—The sandal wood is chiefly exported to China, where it is largely used to burn in the temples and in the houses of the wealthy. The bees-wax is a still more important and valuable product, formed by the wild bees, (*Apis dorsata*), which build huge honey-combs, suspended in the open air from the under side of the lofty branches of the highest trees. These are of a semi-circular form, and often 3 or 4 ft. in diameter.

I once saw the natives take a bees' nest, and a very interesting sight it was. In the valley, where I used to collect insects, I one day saw three or four Timorese men and boys under a high tree, and, looking up, saw on a very lofty horizontal branch three large bees' combs. The tree was straight and smooth barked, and without a branch, till at 70 or 80 ft. from the ground it gave out the limb which the bees had chosen for their home. As the men were evidently looking after the bees, I waited to watch their operations. One of them first produced a long piece of wood, apparently the stem of a small tree or creeper, which he had brought with him, and began splitting it through in several directions, which showed that it was very tough and stringy. He then wrapped it in palm leaves, which were secured by twisting a slender creeper around them. He then fastened his cloth tightly around his loins, and producing another cloth, wrapped it around his head, neck, and body, and tied it firmly around his neck, leaving his face, arms and legs comparatively bare. Slung to this girdle he carried a long thin coil of cord; and while he had been making these preparations one of his companions had cut a strong creeper, or bush-rope 8 or 10 yards long, to one end of which the wood torch was fastened, and lighted at the bottom, emitting a steady stream of smoke. Just above the torch a chopping-knife was fastened by a short cord.

The bee-hunter now took hold of the bush-rope just above the torch and passed the other end around the trunk of the tree, holding one end in each hand. Jerking it up the tree a little above his head, he set his foot against the trunk, and, leaning back began walking up it. It was wonderful to see the skill with which he took advantage of the slightest irregularities of the bark or

obliquity of the stem to aid his ascent, jerking the stiff creeper a few feet higher when he had found a firm hold for his bare foot.—It almost made me giddy to look at him as he rapidly got up,—30, 40, 50 ft. above the ground; and I kept wondering how he could possibly mount the next few feet of straight, smooth trunk. Still, however, he kept on with as much coolness and apparent certainty as if he were going up a ladder, until he got within 10 or 15 ft. of the bees; then he stopped a moment and took care to swing the torch (which hung just at his feet) a little towards these dangerous insects, so as to send up the stream of smoke between him and them. Still going on, in a minute more he brought himself under the limb, and in a manner quite uninteligible to me, seeing that both hands were occupied in supporting himself by the creeper, managed to get upon it.

By this time, the bees began to be alarmed, and formed a dense, buzzing swarm just over him, but he brought the torch up closer to the hive, and cooly brushed away those that settled on his arms and legs. Then stretching himself along the limb, he crept towards the nearest comb and swung the torch just under it. The moment the smoke touched it, its color changed in a most curious manner from black to white, the myriads of bees that had covered it flying off and forming a dense cloud above and around. The man then lay at full length along the limb, and brushed off the remaining bees with his hand, and then drawing his knife, cut off the comb at one slice close to the tree, and attaching the thin cord to it, let it down to his companions below. He was all this time enveloped in a crowd of angry bees, and how he bore their stings so cooly, and went on with his work at that giddy height so deliberately, was more than I could understand. The bees were evidently not stupified by the smoke or driven away far by it, and it was impossible that the small stream from the torch could protect his whole body when at work. There were 3 other combs on the same tree, and all were successfully taken, and furnished the whole party with a luscious feast of honey and young bees, and a valuable lot of wax.

After 2 of the combs had been let down, the bees became rather numerous below, flying about wildly and stinging viciously. Several of them got about me, and I was soon stung, and had to run away, beating them off with my net and capturing them for specimens. Several of them followed me for at least half a mile, getting into my hair and persecuting me most pertinaciously, so that I was more astonished than ever at the immunity of the natives. I am inclined to think that slow and deliberate motion, and no attempt at escape, are perhaps the best safeguards. A bee settling on a passive native probably behaves as it would on a tree or other inanimate substance, which it does not attempt to sting.—Still they must often suffer, but they are used to the pain and learn to bear it impassively, as without doing so no man could be a bee hunter."

I consider this a very remarkable description. Very few men not practical apiarists would have observed as much and stated it as clearly. I regret that the arrangement of these "3 combs" is not given. It is to be hoped they were parallel and not a unicomb arrangement, lengthwise with the limb.

Two birds, bee eaters, are named Meropogon-forsteni, and Merops-ornatus.

I hope soon to be in possession of facts of still greater, practical interest, which I will communicate as soon as received.

E. PARMLY.

19 W. 38th St. New York.

For the American Bee Journal.

My Bees.

For the first time in many years, the summer of 1877 found me devoting my entire time to the care of my bees, during the honey harvest. I started with 98 colonies in fair condition. Fruit blossoms were an entire failure, so the bees were late about filling up in numbers. I took a ton of extracted honey, and the same amount of comb, and increased to 127 colonies, which were put in the cellar during the last half of Nov. My bees were inclined to swarm more than I wished, and I suppose I was the loser by trying to prevent it. At first, I tried returning the swarms and cutting out all queen cells; but that seemed to make but little difference; they would come out again in a day or two. I tried hiving them in their own hive, and moving it to a new place, but they swarmed out all the same.—Then I hived the queen with a few of the bees, and gave them a single frame of brood, but the queen would swarm out with most of her little colony.

One trouble was that I had not prepared for them beforehand. I had not supers ready so as to give them plenty of room to work in, and they swarmed so much that I could only work mornings and evenings, making supers and getting them ready. But after a colony swarmed once, it did not seem to make much difference how much room they had.

Perhaps the most determined colony in the apiary was No. 30. June 16, I put on a super of novice sections, filled with foundation, and June 20 they swarmed. (I think it quite possible, that if the sections had been put on June 10 or sooner, they would not have swarmed.) I returned the swarm, or rather let it return itself, as the queen was clipped; and cut out all queen cells, taking away one frame of brood and giving in its place a frame of foundation. Next day, June 21, they swarmed again, and I took away 3 more frames of brood. June 22, they swarmed again, and as usual I caught the queen and gave her back after their return; and in a few minutes, out they came again. Then I took away all their brood, took off the supper, and left them nothing but empty frames and a little foundation; feeling determined that for once I would have my own way, and that the colony should not swarm anyhow. But in spite of all, out they came the next day, and I very humbly hived the swarm in an empty hive where it clustered, and it remained content. Examining No. 30, I found not a particle of brood in any stage, and but 1 egg, which was in a queen cell that was started on the foundation. As there was a fair colony of bees left, I gave them back their brood and a sealed queen cell.

I have never thought that the queen had anything to do with making a colony swarm, but a number of cases this last summer point quite strongly in that direction.—Frequently a queen has been spoken of as

"leading out a swarm," but a queen is seldom among the first that leave, and is often among the very last; so that if she does have anything to do with it, she seems rather to stir them up and drive them out.

June 27, No 4 swarmed. I caught the queen, and put in an empty hive a frame of brood, with the adhering bees from a nucleus that had been queenless 9 days, and the queen was gladly accepted by them. This hive, containing the queen, I placed beside No. 4, and the next day the queen and most of the bees were gone. July 5, I opened No. 4, to cut out the queen cells, and found them destroyed; plenty of young brood and eggs, and the old clipped queen back in the hive doing duty. Did this queen give the swarming fever to the little nucleus, which was well shaded, and certainly had no previous inclination to swarm? Why should she be content back in the old hive?

Dec. 8, 1877. B. LUNDERER.

For the American Bee Journal.

Failure in Wintering.

For the benefit of my fellow bee-keepers, I will relate my sad experience of last Winter:

In the fall, a year ago, I had 53 colonies, nearly all strong. I was very anxious to save them through the winter, as they had rewarded me handsomely for my summer's care, and especially anxious about them as I had lost heavily during the last 7 years.

In accordance to some writer's directions in THE AMERICAN BEE JOURNAL, I procured lumber and made large boxes—1 for each hive; large enough to admit 4 inches of chopped straw around, under and above the hive. In place of a honey board, I used a quilt. Now for results:

By the 1st of Jan. nearly all were getting very uneasy, trying to get out of the hives, and exhibiting signs of disease. By the 1st of April, one third of the stock were entirely gone; middle of May, only about one-half were left, and they very weak. Will some one tell me why they died when I had taken so much pains to save them?

SPRING MANAGEMENT.

I do not feel like instructing the merest novice about *wintering* bees, but I may suggest some thing of use to the beginner, in regard to equalizing and building up a lot of weak stocks:

When spring opens contract the entrances, and make all tight and warm over the bees. Guard all the weak stocks very carefully from the strong ones, and contract their hive room to accommodate the size of the swarm. Take away extra combs, but leave plenty of honey. During cold windy days, discourage them from flying, by shading the entrance of the hives.

It is necessary that at least one-third of the entire number of stocks should be good and strong. When settled warm weather arrives, (say about the 1st of May, but not before for this latitude), begin to equalize. Take from the centre of each strong stock two combs of hatching brood,—bees with them, if sure you leave the queen in her own hive, and give one of these combs to each weak stock, placing it in the centre of the cluster. Then make all warm again and wait 10 days, supplying the strong stocks with good empty worker-combs to replace those removed, and keep a record of your operations.

Always select the oldest or hatching brood to give the weak ones.

If hives have plenty of honey, I don't think it pays to feed them to stimulate breeding in the spring.

The above is just what I practice every spring, if I have poor stocks; I find it pays well, though it makes some trouble.

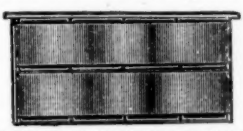
Freeport, Ill. PRESCOTT YOUNG.

For the American Bee Journal.

Tin Separators.

Mr. Heddon, in THE JOURNAL for Oct., writes: "I find Root's method of putting these frames, (sections), within frames, very complicated and troublesome, compared to the method I use." Will Mr. Hedden please explain his method, for the benefit of many who are inquiring for the best way—the least complicated and troublesome way? And, if he uses the tin separators, will he give size of tins, compared with combs to be built, and the manner of readily adjusting them, and changing them from one case, when filled, to another empty one?

I suppose our large producers in the East use separators, (certainly Mr. Hetherington's fine display at the Centennial—each section comb encased in six pieces of glass,



LANGSTROTH FRAME WITH SEPARATORS.

could not have been secured with such uniform regularity without them), and perhaps our western producers also; yet, but very little mention is made of them in the bee-papers, and I do not remember seeing any illustration of them in THE AMERICAN BEE JOURNAL.

Common bee-keepers are becoming dissatisfied with any way as soon as they think there is a better one; and to have heard a little of separators, stimulates inquiry.—Shall they look to THE AMERICAN BEE JOURNAL for illustrations of them?

In same number, Southard & Ranney give cut of their case or rack, for sections. The sheet-iron rests, with edges turned up, will undoubtedly work well. I have tried common hoop-iron, but it is not stiff enough, and so thin, that in turning up, the bees fasten the two cases together so tightly, that in lifting off the upper one, the tops of sections are torn from the lower ones.—Strips of wood-work are better, but the bees spend too much time in sticking them down. I think they might neglect the edges of metal, as they do the tin corners. *Where can we procure such rests?* "The rack sits on the frames." Does it also sit on top of hive, closing it bee-tight? If it closes at the bottom, then, by covering the glass, could we not dispense with the super? But then, in tiering up, would it close bee-tight? Hope you will describe some of the manipulations in working them. Will you also instruct us how we may obtain sections at 2 mills each. The difference of mills on each one is not much, but $8.00 on every

thousand is worth looking after. Could a set of tins for this rack be fastened to a frame work, and all be let down together between the sections when ready for the bees?

Among the many interesting essays in the Nov. AMERICAN BEE JOURNAL, I found in one by Mr. Metcalf, an expression of opinion in regard to "pure queens, and pure progeny," which I have been expecting to find in each succeeding number. I believe he has given voice to the private thoughts of very many. Facts in one's experience are stubborn things, and do not yield gracefully to any theory with which they are not in harmony.

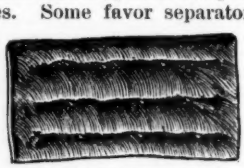
That an intelligent, truth-loving apiarist can spend season after season among his bees, improving, and testing them, and then go into his study, and "in the presence of the innermost, holiest of conscience," as Rev. Joseph Cook might say—deliberately put pen to paper to teach beginners the "drone theory of the books," has been to

LANGSTROTH FRAME WITH SMALL SECTIONS.

me, for years, a source of wonder. The suspicion that he uses *separators* between himself and his conscience is not to be entertained; therefore useless, any inquiry as to how *these* may be worked.

Ridgeville, Ill. A. L. GOULD.

[Above we give a view of a Langstroth frame (2 inches in width) filled with 8 sections, 4¼x4¼ each; and another showing the use of the separators. The latter are pieces of thin tin, tacked at each end to the sections, to be easily removed when the frames are filled. Their use is to keep the combs straight. About ⅞ of one inch should be left between the two separators, and their size must be governed by the size of the hive used. The separators should not come nearer than about ½ inch to top or bottom of frames. Some favor separators, while



NOVICE'S CHAFF CUSHION.

others prefer to use foundation without them. If friend Doolittle is still using them, he does not say so in his article in this issue. Will he please give his experience with them to our readers? The rests used by Dr. Southard can be made by any tinner. Take strips of sheet-iron 2 inches wide, and turn up ¼ inch on each side for the centre—only one edge turned up for the ends. The rack sits on the hive, making it bee tight. Will Dr. Southard please give us his manipulations for our next issue?—ED.]

Foreign Notes,

GLEANED BY FRANK BENTON.

☞ The following is the translation of a letter recently received:

Monselice, Italy, Nov. 28, 1877.

MON CHER M. FRANK BENTON:—I await from day to day the bees of the island of Java which I am to receive at the port of Venice.

I believe *Apis dorsata*, of the island of Java, to be the best, whether we consider its size, which enables it to collect much honey, or whether its large proboscis, enabling it to obtain honey from flowers that our bees cannot collect from on account of their short proboscis.

I think that it is unnecessary to make a journey to the island of Java, because professors of natural science are there who would be able to procure and send the bees.

As to the Cyprian bee, it is more yellow than our Italians, but possesses no other special points.

With sincere respect, I am yours truly,

JOSEPH FIORINI.

"THE year 1877 is, decidedly, to be reckoned among the unlucky years for apiculturists."—*L'Ape Italiana, Turin.*

"In consequence of an exceedingly changeable spring, followed by a hot, suffocating summer with a prolonged drouth which dried up the sources of honey, this year has given few swarms and but little honey."—*L'Apicoltore.*

☞ In a letter to *L'Apicoltore*, Milan, Sig. Ginseppe Fiorini, who has undertaken the importation of *Apis dorsata* to Italy, remarks: "I should be proud to be able to import this race of bees to our beautiful Italy, for I would like to have the names of our Italian apiarists praised as well as those of other nations, and that it might be said the Italians first imported *Apis dorsata* to Europe."

PARIS EXPOSITION.—The October number of *L'Apiculteur* (Paris) states that the assignment of space to exhibitors in class 83, at the Exposition of 1878, has not taken place, as yet, because of changes in the proposed location and arrangement of articles in this class. It says that the area, 800 metres, first asked for would not have been too much, yet the request had to be lowered to 400 metres, and 260 metres will be granted the department. It seems the plan is to exhibit the products of the apiary only in connection with the various agricultural products. *L'Apiculteur* remarks: "Not being united the products of the apiculturists who have requested of the departmental Commission or of the Agricultural Society in session, space in which to exhibit, will be scattered throughout the agricultural exhibit, and will neither be seen by the public or viewed by a special committee. What the exhibitors ought to do is to state to the said Commission or Society that they expect to exhibit only in Class 83, to refuse to exhibit elsewhere, and to address immediately a request to the Minister of Agriculture that their products be admitted to Class 83. It is not too late, but there is no time to lose."

Conventions.

Western Illinois Convention.

Second semi-annual session, held at Oquawka, Henderson Co., Ill., Oct. 2 and 3, 1877; President Kellogg in the chair.

The first business called was the admission of new members, when the following persons enrolled their names:

Chas. Dadant, Hamilton, Ill., (by letter), C. P. Dadant, Hamilton, (by letter), D. D. Palmer, Eliza, Martin Wort, Keithsburg, L. H. Scudder, New Boston, C. W. Green, Oquawka, M. T. Sharp, Oquawka, A. A. Clark, Oquawka, Wm. O. Atkinson, Vermont, L. C. Meadows, Abingdon, Stephen Kennedy, Rosetta, A. M. Blakesly, Rock Island, Dr. I. P. Wilson, Burlington, Iowa, Geo. Bischoff, Burlington.

Lady members: Mrs. L. C. Axtel, Roseville, Mrs. H. L. Scudder, New Boston, Mrs. W. O. Atkinson, Vermont, Misses Fannie E. Roberston and Susan R. Meadows, Abingdon.

Election of officers for the ensuing year resulted as follows: Pres., D. D. Palmer, Eliza, Ill; Sec., W. M. Kellogg, Oneida; Treas., T. G. McGaw, Monmouth; Vice Pres'ts, N. H. Derr, Keithsburg, and Jas. A. Simpson, Alexis.

Motion carried that there be an annual fee of 50 cts. to pay for lights, hall rent, printing, etc., and that ladies be admitted free of charge.

Motion made and carried that subjects for discussion be selected by those wishing information.

THE BEST METHOD OF CATCHING BLACK QUEENS, AND INTODUCING ITALIANS.

Simpson—black queens are apt to run. I take out the frames one by one, look carefully for the queen, and set the frames in an empty hive. If I don't find her thus, I put the combs back, but first shake bees down in front of the hive on a cloth, and look for a queen as the bees travel in, and usually find her. After catching black queen, I cage the Italian queen and put the cage in the hive, in contact with honey; leave her caged 24 hours, then release her, (if by the action of the bees I deem it safe), sprinkling queen and bees with sweetened water or honey; handle bees carefully while doing this.

Haines—confine queen in cage 24 to 48 hours, then dip in sweetened water, and in 9 cases out of 10, queen is well received; best time to find black queen is 3 or 4 p. m.; for holding frames, prefer a frame of 4 corners, instead of hive, and set in front or one side of hive to let dropped bees run into hive.

McGaw—after years of experience I find this plan good: Drive bees into cap of hive or box, place hive on one end of a cloth, the box of bees on the other, make the bees cross over to hive by dipping a few out to get them started; find the queen while crossing. Scent the bees with oil of anice, 10 or 15 drops in alcohol and water, douse the Italian queen in also, and introduce at once; I adopt this plan when away from home and in a hurry, if at home would take a slower method.

Kellogg—cage Italian queen and place on top of frames, under quilt or honey board; on the morning of the third day look through hive, and pinch off all the queen cells and close the hive; afternoon of the same day open hive very carefully, daub queen in a half cup of honey, daubing her all over; drop into hive with a spoon and sprinkle the ballance of honey on frames and bees; close the hive and do not open it again for at least 2 days; many a queen has been lost by opening the hive too soon after introducing.

DO BEES START QUEEN CELLS WHILE QUEEN IS IN CAGE?

McGaw and Kellog never saw it otherwise. Atkinson never saw it done.

Palmer—Find black queen by a plan similar to Simpson's, introduce Italian queen by daubing thoroughly in honey and pouring in honey, queen and all; black bees sometimes keep on raising queen cells after the Italian queen is introduced, until all the black bees are gone.

Axtell—Introduce Italian queen in wire cloth cage; by leaving the cage on top, one is liable to forget it for several days. Have tried another method; use Quinby's hive, take an open-end cage, take off side of hive, cut a hole through the comb, leaving the plug of honey in the hole; crowd open end of cage over this plug; bees will lick up honey, eat out plug and the queen is safely introduced.

Simpson—Mr. Axtell's plan is not good for top-opening hives.

Axtell—Take a piece of comb, cut the hole through and use on top the same as on the side of frames.

Meadows—What is the safest length of time to keep queen in cage before releasing?

Ans.—No certain time—from 24 to 48 hours.

Wirt—How do you make the bees *hold still* while handling?

Ans.—Use rotten wood smoke.

Meadows—At what time of the year is it best to introduce queens?

Ans.—For a new beginner, when there is a good flow of honey; for old hands, almost any time.

HOW MANY HAVE SEEN FERTILE WORKERS?

Scudder—Have had a good deal of experience with them, think there are such *birds*; worked with a swarm all summer, putting in bees and queens; made a failure and had to own up beat by a fertile worker.

Simpson—Had a second swarm, gave them comb, and in two weeks were queenless, gave them a queen cell twice, destroyed by fertile worker, gave caged queen, released in 18 hours and accepted.

Palmer—A stock in the fall, weak or queenless is not worth fussing with.

THE BEST PLAN FOR UNITING, IN ORDER TO PREVENT THE BEES RETURNING TO THEIR OWN STAND AND FIGHTING.

Simpson—I have my nuclei in circles, entrances outward in fall; slowly bringing entrances close together, then unite in one hive, and remove all the nuclei hives.

Kellogg—Sprinkle all the bees with sweetened or scented water and shake bees down in front of one hive, and let them crawl in together, giving the best combs from both hives (or more) for the new stock; look out for robbers.

WHEN IS THE BEST TIME TO PUT IN QUEEN CELLS AFTER REMOVING THE OLD QUEEN?

McGaw—At once.

Wirt—What position do you put cell in?

McGaw—Point down.

Atkinson—Either end up, if well advanced; if not, point down.

Kellogg—Rather wait 12 hours before putting in queen cell.

Meadows—Does age of colony, strong or weak, make any difference?

McGaw—No.

THE BEST MODE OF INTRODUCING VIRGIN QUEENS 4 OR 5 DAYS OLD.

McGaw—Introduce as soon as hatched.

THE BEST METHOD OF SWARMING.

Palmer—I have found it of no use to try to return a first swarm; I use a registering slate on each hive. Always use it on the same side of each hive, and always open each hive on the same side; when a swarm comes off, I mark the date on the slate, return all second swarms, or sometimes put 2 or 3 together.

McGaw—I put a laying queen in the old stock.

Palmer—If I want to increase, I buy the best queen to be found; use a large hive, maybe 20 frames, give it lots of brood; after a time take the queen away, let the bees build queen cells, then break up the stock into nuclei of 1 or 2 frames each, giving each a queen cell. After each nucleus has a laying queen, build it up from strong stocks by giving brood and bees.

Simpson—In the spring I take 2 combs, each from strong stocks to form my nuclei, fill the rest of the hive with comb-foundation. Place 3 nuclei hives near each other and raise my queens there; as soon as my stocks are strong enough to warrant it, I move a strong stock to a new place; give new stock on old stand one or two combs and a queen from a nucleus; keep nuclei strong by giving fresh brood and bees as often as needed; having my nuclei near together, I can easily unite them into one swarm in the fall.

McGaw—I prefer natural swarms, but if they don't swarm by June, and are strong, I divide.

Scudder—I consider McGaw's plan best; keep bees strong and go slow; light stocks are no profit; hold down increase as much as possible and get all the honey I can.

McGaw—It takes from 15 to 20 lbs. of honey to make 1 lb. of comb, so make as little new comb as possible.

Palmer—The extra amount of honey got by keeping down swarming, will more than buy the swarms you would have got by letting them swarm. I keep down swarming by giving plenty of box room; use a double-portico Langstroth hive, entrance at both ends of the hive, 4 Harbison section boxes on top, cap of hive extends out over each portico, so my boxes cover more surface than the main hive; take off boxes as fast as each one is filled; thus giving them plenty of room, keep well shaded, ventilate well; I never tier up boxes.

Scudder—Much depends on locality; I think where I depend on fall forage, I get more honey by having bees in two stocks than I would were they in one, but if the forage is greater in spring, keep down swarming, put on boxes to get early forage.

THE MOST SUCCESSFUL PLAN OF GETTING THE GREATEST YIELD OF HONEY.

McGaw—Keep from swarming and buy your increase.

Palmer—If I had a few stocks and wanted to increase, would stimulate in spring, use graham flour, honey or sweetened water, use a universal feeder, (a large tin can with small holes in the bottom), turn it bottom side down in a tub, (holes down), which will make it air tight. Feed in the open air, and spread brood combs; as fast as the bees can use them, put in empty comb. Divide strong stocks early. Think this plan better than the natural swarming. I put my feed tub 40 ft. from hives.

Scudder—I have robbing from that kind of feeding.

Palmer, Scudder, and McGaw think Italians will rob more than blacks.

Wirt—My black bees will not fight the moth worms.

All concur in this. At this point a discussion was had in regard to bees robbing late in the fall of the year. Many thought it was caused by the space left by the hatching bees, this being unfilled by the queen, the bees are crazy to fill this space with honey.

Kellogg—I think it is caused more because bees must have something to do; can't stand being shut off from their work so short.—Bees will rob when their hives are filled with honey.

WHAT IS THE BEST WAY TO GET BEES OUT OF HONEY BOXES?

McGaw—To take off boxes and place beside the hive won't do when no honey is coming in; robbers will bother.

Scudder—Number all boxes to tell what hive they came from. After most of the bees are out, turn boxes wrong side up placing empty box on them; bees pass from full boxes into the empty one on top.

Palmer—Take off boxes, turn bottom up, and place on cap of hive from which boxes were taken, and cover each box with an empty one; bees will soon go up and cluster in an empty box, and then go around and shake bees down in front of hive. To get out the few bees left in boxes, carry the boxes into honey room, set them on their sides, 8 or 9 high; in the morning those left will be in one or two boxes.

Wirt—I have a dark room in cellar, with outside window darkened and set boxes on bench near window, with ladder to window; bees leave readily and go out doors,

Atkinson and Palmer—To drive bees with the breath, must blow hard, not a light puff. The breath of a bee-keeper must not be scented by strong substances.

Jarvis—I use a part of the plan of Adam Grimm. Have several nuclei, and put my boxes in a large box, bottom up; take one or two frames from a nucleus, and put them in a small hive on top of boxes on small blocks, bees gather in nucleus hive, then shake them off in front of nucleus, from whence take and put the frames back in the hive where they belong.

HOW CAN WE BEST PROTECT OURSELVES FROM BEE STINGS?

Scudder—Bees dislike black or dark clothes; gloves should be light colored and smooth.

Meadows—Have used all kinds of gloves and veils, but work kindly and carefully without and find them not so cross as when handled with protection on.

McGaw—There is a vast difference in bees and the time of the year when handled.

Several present had been badly stung by handling bees after dark.

Palmer—Clothing worn until dirty and full of bee stings ought to be changed and washed twice a week.

Mr. Palmer here showed his "bee shirt;" it has four buttons on wristband and three buttons on left shoulder, no opening on back or in front, and no bees get in; uses a straw hat and a bobinet veil.

DOES FREQUENT BUT CAREFUL OPENING OF HIVES AND HANDLING OF BEES INJURE THEM IN ANY WAY?

Haines—I think it does not.

Wilson—Frames should be put back carefully and in the same place as before, else there is a loss of time in bees fixing up broken places.

Kellogg—Think the loss of time not noticeable.

Palmer—Never open a hive unless you have to. My frames must fit any where, in any hive; let us have our combs straight, then there is no trouble.

Opinion of the society—no harm is done.

Palmer—I have my hives so that I always open on the same side. In putting in queen cells, cages, etc., always put in on one certain frame; I invariably use the third frame.

Meadows—I think the advantages of frequently opening hives and taking care of bees, greatly overbalances the disadvantages, if any exist.

Axtel—The more I handle my bees the more gentle they get, and I get more honey.

THE BEST PLAN TO START BEES WORKING IN BOXES.

Palmer—Take three or four frames out of hive, extract and put back in centre. In cleaning up dripping honey, the bees get a stream started and run clear up into the boxes at once. When I find brood in boxes, I mark the date on box, and return to hive; after time enough has passed for it to hatch, I again look at it, and if all are hatched, I take box off, if not, I replace for a longer time.

Kellogg—Would add to Palmer's plan as above, a sheet of comb foundation in centre frame of box, for a climbing place for the bees; would rather cut out the brood and let bees refill with honey, as comb that has brood in it is tough.

THE BEST METHOD OF WINTERING BEES?

Axtel—I use the Quinby hive, take out side frames, put quilts down sides and on top, and pack empty space with chaff, and winter on summer stands.

Palmer—Winter none but strong stocks, no nuclei; use dry cellar if we can, divide bee part from the rest of the cellar; keep dark and pure air; thermometer not below 32° nor above 50°; have opening in chimney at bottom of cellar, thus keeping bottom of cellar dry and no mouldy combs; to ventilate hive, raise one corner of honey board on little stick, caps off.

Wirt—I use a cellar in sand; have various kinds of success, good, bad and indifferent; fill caps with straw, ventilators in cap; rather have bees in cellar by themselves, thick straw packing one of the essential points of safe wintering.

McGaw—You will save from ¼ to ⅓ of your winter stores by wintering in a cellar. Put heavy or strong stocks at the bottom, light ones on top.

Palmer—My cellar has 4 windows covered with wire cloth on the outside, space packed with straw; windows on hinges inside, which I open and close according to variation of thermometer.

Atkinson—Our worst trouble is to keep bees cool in a warm spell.

Axtel—Packed in chaff my bees need a temperature of 36°.

Wilson—I winter in a cellar, and have uniform success; I return each hive to the same spot it occupied the fall before.

Palmer—Circumstances will show which is best. If there is snow on the ground when bees are put in cellar and none on when they are put out in the spring, I think it makes no difference as to previous place, and *vice versa*.

Kellogg—Always carry bees out at night, it is much better than in the day time, then the bees begin to fly gradually in the morning and not at once as they do when put out in day time.

Jarvis—Put bees out at night and place on stands just as it happens and find no trouble, keep bees in cellar built in sand bank, from about Nov. 6.

McGaw—Put my bees out without regard to previous place; keep in cellar from 5 to 6 months.

Bischoff—Piled hives in a row covered with boards and straw, a warm day came and bees flew out, returned to old stands and perished.

Haines—Winter on summer stands; let them stand just as they were all summer; never lost any; colonies packed in chaff were a failure, flew out in the snow, and dwindled in spring; use Quinby's hive.

Simpson—In the winter of 1872-3 I lost equally on summer stands and in cellar.

BEE HOUSE.

Palmer—I want a bee house, for wintering bees, storing honey, extracting, a shop, etc. I want to build of brick in a side hill, so that when I am working in the house I can see the bees swarming, etc.

Simpson—Would build about 14x20, two stories, upper story divided into 2 rooms so I could keep one dark.

Kellogg—Would have wire cloth windows and doors made in such a manner that bees could all go out but none get in, will have a model at our next meeting.

Axtel—The doors to my honey room are double, and in the worst cases of robbing have no trouble; doors have one foot space between.

Wilson—Where you have no side hills, would advise using the old-fashioned cellar-cave, about a foot under ground; roof covered with dirt, sod, etc,. and very dry.

Axtel—Think a cellar for bees and a house for a shop can be built cheaper separately than both in one.

Haines—Can bees hear a sound so as to be disturbed by it in winter? Several think not, but feel the concussion or jar.

WHAT SURPLUS BOX SHALL WE USE?

Scudder—I like the Harbison section-frame-box best.

Kellogg—Would prefer a surplus box made up of frames, so that each frame can be taken out without taking the box to pieces; do not like the small 6 lb. boxes,—would not take them as a gift.

Axtel—I use the small frame, set on top of hive loose, three frames fastened end to end by a narrow strip on top, and one clinch nail driven through it into each frame; use as many rows as hive will accommodate.

Atkinson—I use a similar frame and like it very well.

McGaw—Showed the Oatman single comb box, glass on two sides. It depends on the demand, which box I prefer. If I can get 12½ cts. for honey in 40 to 50 lb. boxes, it would pay better than fancy boxes at 20c.

Palmer—Use the Harbison section-box; like it best of anything; this box, in the fall when robbers bother, is more easily taken off than loose frames.

Wirt—Use Harbison small frame (not the section), don't like it. Use another called the Severance frame; hangs in a box; has wooden division boards with holes in; like it very much, though I think it can be improved. Would not the tin separators, used by some, be better with holes in them?

Atkinson—Don't think it will pay for the trouble.

WILL ITALIANS WORK ON BUCKWHEAT AS WELL AS BLACKS?

Ans.—By several, yes.

HOW SHALL WE FASTEN COMB FOUNDATION IN THE SECTION BOXES?

Simpson showed a machine by which it can be put on by foot power; it is also adapted to frame making; a bar of iron presses the comb foundation to top bar of the box.

Kellogg—I soften the comb foundation by exposing to sunshine or stove heat, have a cup of hot water and a putty knife; lay frame on table, top down; lay strip of comb foundation on top bar, edge of comb foundation coming just a little beyond centre of top bar; take putty knife and give it a dip into hot water and mash down about 1-16 of an inch of comb foundation on to the top bar, the whole length of comb foundation, then turn comb foundation up so that it will hang down when the frame is turned right side up; can do it very fast; it gives a strong fastening if done right.

WHERE SHALL WE STORE HONEY?

Several—In as dry a place as possible; not in the cellar.

Bischoff—I closed up my boxes of honey to keep honey from sweating; it did not prevent it.

Atkinson—Think sweating is caused by moisture condencing on the surface of the comb.

SHALL WE USE COMB FOUNDATION? WILL IT PAY? WHEN AND WHERE?

Kellogg—It will pay; would use it for guide combs in surplus boxes in preference to comb; where there is but a light though steady yield of honey, would use it in brood frames, and in light stocks, frames nearly full of it, but when there is a great flow of honey would only use for guides and in nuclei stocks. Strong stocks break it down in great honey yields; would advise those who try it to get five cells to the inch, then you can use it both for brood and surplus boxes.

McGaw—Used 5 lbs. of white comb foundation, but would never buy it again; prefer the yellow for all purposes.

HOW TO PREVENT SWARMING.

Scudder—Nail wire cloth over the porticos.

Atkinson—Wouldn't brimstone be as good?

Palmer—Tried wire cloth once; combs all melted down, learning me a lesson.

Axtell—In fall, save all empty combs fit for surplus frames; in spring, have honey boxes all ready and as soon as honey comes freely, put on boxes at once, with one empty comb in centre of box, one to each hive, more if possible. Put a few boxes on at first, then more, as fast as needed. Queen must have room for brood in early spring; change boxes as fast as filled.

McGaw—I use about the same plan; cut out queen cells as often as I can, and put in an empty frame.

Wilson—I advise the plan of keeping one or more light stocks to build comb foundation, and to trim up combs from transferred stocks, giving them combs from other stocks.

Haines—Advise using holes five thirty-seconds of an inch in diameter to keep queen from going out.

Atkinson, Palmer, McGaw, and others, think it impossible to do it in that way.

Palmer—Use large entrances; ventilate well; give large amount of box room; shade well.

HOW SHALL WE GET STRAIGHT WORKER-COMB?

Atkinson—Use comb foundation 4 or 5 inches deep in the frame,

Kellogg—I used it that way, and the bees built much of it down with drone comb.

Scudder—Tip hive forward, examine every few days and straighten comb if crooked.

Axtel—In a new swarm give 1 full comb in center; as fast as bees get frames nearly full, spread and put empty ones between.

Palmer—Use all weak or nuclei hives as comb builders; strong stocks for boxes.

PURITY OF QUEEN.

Haines—Give a black stock eggs, laid by a pure Italian queen, and let them raise a queen from those eggs; is that queen pure?

McGaw, Palmer, Atkinson, Scudder, Kellog, Axtel and others answer, yes. Haines, no.

WHICH WAY SHOULD HIVES FACE?

1st preference, south; 2nd, east; 3d, west; 4th, north.

WHICH WAY DOES A SWARM FLY?

Atkinson—When bees swarm do they fly in a uniform direction in regard to points of compass? A Majority of the members think they do.

Scudder—I think they fly in the direction from whence their supplies come.

Wilson—I think wind blowing the scent from flowers draws them.

A NEW DEPARTURE—PRIZES.

A letter was read from Chas. Dadant & Son, regretting their inability to attend our meeting, and offering the following plan for approval:

At the spring meeting all the names of the members present be written on pieces of paper and put in a box. Then some one be appointed to draw out names. The first name drawn will be entitled to a full colony of bees, with an imported queen. The second name drawn will be entitled to an imported queen. Both the above offers given in the name of Chas. Dadant & Son.

Other members, not to be outdone, offered the following:

Hardin Haines, for the 3d name, an imported Italian queen; for the 4th name, a queen bred from an imported Cyprian queen.

T. G. McGaw for the 5th name, a tested Italian queen; for the 6th name, a dollar queen.

D. D. Palmer for the 7th name, 1 doz. "Sweet-Home" raspberry plants; and for the 8th name, 1 plant of each of the following: Doolittle, Mammouth Cluster, Golden Thornless, Davidson's Thornless, Seneca, Miama, Ganargua, Brandywine, Philadelphia, Lumb's Ever-bearing and Brinkley's Orange.

The society accepted the plan and offers, and voted thanks to the doners.

RESOLUTIONS.

Resolved, thaf we thank Mr. Hodson for the free use of his hall: may his life pass sweetly and pleasantly.

Resolved, that our thanks are due to the proprietor of the Smith House for the low rates given to bee-keepers, good fare, good beds, and especially, courteous treatment.

ARTICLES ON EXHIBITION.

T. G. McGaw, jars of extracted, white clover, and buckwheat honey.

J. Oatman & Co., two-glass, single comb and Novice's new smoker.

W. O. Atkinson, and M. T. Sharp, loose section frames of honey and Novice's two-inch Langstroth frame of sections.

Hardin Haines, a neat, black walnut case, holding one comb (Quinby) with Cyprian queen and a few of her workers among a lot of hybrids and Italians: the members present could see no difference between the so-called Cyprian and the common Italian.

W. M. Kellogg, home-made honey extractor, straight and curved blade honey-knives, bee-feeder. King & Quinby bellows smokers, box of 12x18 in. sheets comb foundation, and box of Harbison's section-frames, full of honey; also specimen copies of the three bee papers for distribution.

Jas. A. Simpson, honey plant and seed, with honey gathered therefrom, *Scrofularia Maryfandicae*; machine for putting on comb foundation; and an insect called the "red-eyed *cicada*," very distructive to bees.

D. D. Palmer, a little 2x3 inch slate.

A number of ladies cheered us by their presence, and also many townfolks. One lady came several miles, who was so sick she could not keep up all the time, but was so interested in bees she "couldn't keep away." Plucky Mrs. Axtell.

Adjourned to meet at Burlington, Iowa, Tuesday and Wednesday, April 23 and 24, 1878. D. D. PALMER, Pres.

WILL M. KELLOGG, Sec'y.

North Missouri Convention.

Met at McCredie, Callaway Co., Mo., Oct. 29: Pres. Hamilton in the chair. After reading the minutes of last meeting Mr. J. A. Reed, of Hallsville, and Dr. T. W. Reed, of Macon City, were received as members.

COMMITTEE ON PRICE OF HONEY.

We, the committee for the investigation of "bulk and prices of honey" beg leave to report, that from all the points of inquiry, we find the crops are short, not exceeding one-half our former crop, and prices proportionately higher. From Cincinnati C. F. Muth reports: Extracted honey, 12 @ 15 c. per lb; box honey, from 18 @ 22 c. per lb.—C. O. Perrine, of Chicago, reports: Extracted, 12 @ 17 c. per lb. From New York no box honey is reported; extracted 11 @ 15 c. N. P. Allen, of Ky., reports, extracted 15 @ 18. From Monmouth, Ill: Extracted, 12 @ 15 c. No box honey in the market.

P. P. COLLIER, } Com.
J. P. SALLEE, }

It was asked, Shall the committee be discharged?

W. W. Trimble suggested that the committee be continued, and R. L. Davis and H. Hamilton be added to the committee, and report at our next regular meeting.

Bills were presented by P. P. Collier and J. A. Hamilton for stamps and stationery, used for Association.

The Treasurer's report was then received.

The constitution was amended so that ladies are admitted as members free of charge.

It was suggested that each member use his best efforts to secure a prompt attrndance of all interested in progressive and scientific bee culture. Also, that we do all in our power to bring honey into more general use, to supersede the worthless sweets now in the markets.

IS COMB FOUNDATION ADVANTAGEOUS?

This subject was discussed in a masterly way, in a very able paper, by P. P. Collier, in which he showed the great saving of honey to the bees. Econemy of time in comb building and as a means of securing worker-comb, inducing bees to work in sections or boxes.

W. W. Trimble—Can any one tell what proportion of the bees are engaged in the construction of comb?

President—Some say two-hirds.

A. A. Collier—Does not wax grow on all worker bees alike? He has seen the wax protruding from under the scales of bees while at work; believes it is removed by the young bees, and comb constructed of it when it becomes burdensome.

W. W. Trimble spoke of the advantage that must arise from the use of comb foundation, and asked: If bees fill a hive with comb, how long will they be in doing it?

P. P. Collier—Nine days is the shortest time in which bees will fill a hive.

W. W. Trimble thinks it takes his bees from one to three months to fill their hives.

P. P. Collier—Wax is as natural a production, after eating honey, as is fat by a hog after eating corn.

W. W. Trimble—The secretion of wax by the bees is like the secretion of milk by the cow; it is increased in proportion to the amount of food consumed.

A. A. Collier—Bees produce no wax in cold weather.

J. P. Sallie—The whole matter of the production of wax is speculation. At certain periods in a bee's life they produce no wax. When they do not have access to the fields, they produce no wax. They obtain it from flowers.

Secretary—Among the experiments of Huber is that of confining bees in a hive and feeding them honey, to see if they would produce wax, which they did in a very short time.

Association adjourned until Thursday, 2 p. m.

Dr. T. W. Reed, of Macon, called the attention of the Association to a model hive, which presented some valuable features, showing that its inventor was familliar with the nature and habits of the honey bee.

A report was then taken of the number of stock of each last spring, the increase and the amount of honey taken.

H. Hamilton reported 77 in the spring, increased to 152; obtained 5,250 lbs. extracted honey.

S. S. Riley had 4 in the spring, increased to 10; took 250 lbs. of honey.

P. P. Collier reported 11 in the spring, increased to 17; obtained 500 lbs. extracted honey.

J. J. Crowson began in the spring with 11, increased to 44 and sold $30 worth of honey at 12½c. per lb.

A. A. Collier had 11 in the spring, increased to 14: obtained 675 lbs. of honey. Obtained 204 lbs. in seven days. Sold his crop at 12½ and 15 cts.

J. L. Craig, 1 hive in the spring, increased to 11; obtained 160 lbs. extracted honey.

J. P. Sallee reported 50 in the spring; obtained 1,500 lbs. honey, 300 of which was box honey.

P. P. Collier had found old combs to be of great value in facilitating the work in new swarms. Has in his apiary 15 or 16 frames of comb, composed entirely of small pieces fastened together by dripping melted wax in the seams; finds it necessary to have the same edge of the comb up as it had in the original hive; had found it of great advantage in inducing bees to work in boxes; he destroys moths and eggs by the use of brimstone.

S. S. Riley asked, "How can you tell the differance between a moth's egg and that of the queen?

Mr. Collier said, "The queen deposits only one egg in a cell, while the moth miller lays her's in clusters; the eggs of the queen are larger.

Mr. Crowson has seen two eggs in a cell.

Pres. They were probably the work of a young queen, or fertile worker.

H. Hamilton had considerable experience with old combs; they were of great advantage; made seventy-five new swarms this season, gave them combs of bees that had died the previous winter, and in two weeks were very strong.

Mr. Crowson asked how long old combs may be used.

Hamilton has used comb for eight years, and they are as good as new.

Mr Collier was of the opinion that old combs do very well for honey but are not so good for brood, as the cells are made smaller by the cocoons, and the bees raised in old combs will be diminished in size.

On motion Dr. T. W. Reed, of Macon, was elected Vice President from Macon, as the constitution provides that each county represented shall be entitled to a Vice President.

Moved and carried that the present officers hold their offices until next regular meeting, which will be held in Martinsburg on the third Wednesday in May, 1878.

The following resolutions were unanimously adopted:

Resolved, That the Association tender its thanks to the owners for the use of this hall.

Resolved, That we, the members of this Association, return our heart felt thanks to the citizens of McCredie and vicinity for the generous hospitality extended to us.

On motion the Association adjourned to meet in Martinsburg on the 3rd Wednesday in May, 1878. H. HAMILTON, Pres.

J. A. HAMILTON, Sec.

Michigan Convention.

The eleventh annual convention of the Michigan Bee-keepers' Association met at Adrian, Dec., 19, 1877. Prof. Cook in the chair. The Secretary being absent, Mr. A. Fahnestock, of Toledo, was elected secretary *pro tem.* The treasurer, Mr. J. Heddon, being absent, he sent the following letter, which was read:

Dowagiac, Mich., Dec. 17, 1877.

DEAR PROF. COOK:

"Up to this evening, I expected to be with you in convention. Warm weather, and housed bees, forced me to stay and take care of them. We go to conventions to learn *how* to take care of bees. We stay at home to *do* it. I send you by mail my feeble effort at a paper on "Honey Markets," also P. O. order for $4.00, the amount of money in the treasury.

I also send you a sample of honey-boxes, and section-frames, made in New England, and of which I have the agency in this state. I expect to sell them as low as they could be got at the factory. They are made of young spruce wood, and are the nicest boxes I have seen. I have also invented the cheapest and best case for shipping boxes, (glassed), or section frames, not glassed, and had it ready to bring; but now it must stay at home. I *think* it is best, at least. If I were with you, I should endeavor to prove that all boxes should be glassed before put to the bees. When boxes are made as these are, so that the glass passes by the edges *all around*, there is no danger of daubed glasses; and such boxes are honey tight, if a comb *should* leak.

I still think, and shall be frank enough to say, that I think there is already honey enough produced to supply all future demands, at any price that will pay costs of production; but whoever does raise honey to sell, it will be best for *all* to have it stored in salable shape, at good prices. If the convention was 50 miles away, we could leave our business and bees. Won't it prove that we should have a south-western association and local conventions generally?

With best wishes to all brother producers, I subscribe." JAMES HEDDON.

This opened a discussion upon

GLASSED BOXES *vs.* SECTIONAL FRAMES.

Mr. Butler, Jackson, for 2 years past, has raised his honey in sections, and discarded the glass.

Prof. Cook said, many expert apiarists, among them Mr. Betsinger, thought even the sections should be glassed.

Mr. A. H. Russell, Adrian, said he put his honey up in 1, 2, and 3 card boxes. He glassed his boxes before he put them on.

Mr. Butler favored the section plan, for the reason that many consumers would not like to buy a pound of glass and wood with but a small quantity of honey.

Dr. Southard, Kalamazoo, found the section plan the best for that market. There was no glass or wood to sell.

Mr. Van Rensselaer, Ottawa. O., did not favor glassing the honey.

The President said it was a very important point to put on but a portion of the boxes at first, in the spring.

J. W. Benedict, Tecumseh, asked when was the time to put on the boxes?

Dr. Southard said, when the hives were full of bees, and there was honey to gather.

The President expressed himself in favor of the light sections, and he would make them to hold just a pound. He thought the use of separators with the sections advisable.

Mr. Fahenstock, of Toledo, said that he would give an instance of his experience.—He had observed that there was a great deal in the looks of things. He had used both kinds of boxes the same season, and both were equally well-filled. The honey was beautiful, in the wood sections, but all he could get for it in the market was 13 cts.—He took in his glassed boxes and sold every one, before he left the store the first day, readily for 20 cts. per lb, glass and all.

Mr. Bingham, Abronia, was satisfied that the small boxes would sell better in the cities. He said the nearer one got to penny packages, the better they would suit the city trade.

Dr. Southard, of Kalamazoo, said he used small sections, but put them into a frame of his own invention, and used as many sections as the size of the colony would warrant. He got his box stuff at the honey box factory in Grand Haven. The cost of each section box is about two mills. These sections are 4 inches square and 2 inches wide.

Mr. Butler, Jackson, hived his swarms on full comb and brood, and in 20 minutes after they were hived they were at work in the sections. Of the artificial comb, he used that which was five cells to the inch. He had never used any separator, for he didn't think it necessary.

The next subject was

EXTRACTED HONEY.

Prof. Cook expressed himself strongly in favor of extracted honey. He preferred to sell it, and could make more money by extracting it. He could sell for 12 cents, and make more than he could in the comb at 25 cents. He gave his experience in disposing of it, the cost of putting it up, etc.—He said he would put it up in jelly cups, and the cost would be about 4½ cents. He would not label any honey first-class unless it *was* first-class. They could'nt afford to be dishonest in recommending their wares. They must grade the honey.

Mr. Bingham said the President had spoken of labeling the honey "pure basswood," "pure clover," etc. He tried that once and got notoriety. He had some very nice basswood honey, and had labels printed "pure basswood honey," took a bottle of it to the editor of an Allegan paper, who, after duly testing the same, gave a notice in his next issue that he was in receipt of a very superior article of pure basswood honey, from Mr. Bingham; and the next week, one of the Detroit papers stated that an Allegan genius had succeeded in making honey from basswood.

Mr. Southard, of Kalamazoo, said he was growing more in favor of extracted honey. He found Mason's quart cans the most economical; could fill a quart can and sell it for 55 cents, receiving 15 cents for his honey, and the can was always good.

Mr. Butler, of Jackson, said that more money can be made by extracting, but sales are not so freely made.

Mr. Van Rensselaer favors having an extractor at once. Extracted houey sold more readily than comb honey.

Mr. Bingham, Allegan, thought not more than 10 or 15 per cent. more honey could be got by extracting.

Mr. Everett, Toledo, put his honey in jelly cups, and used a tin cover. It retailed very nicely in Toledo.

Dr. Southard explained the mode of extracting honey.

Prof. Cook said it was not necessary to wait for the bees to cap the honey.

Mr. Thompson, Detroit, explained a cheap extractor of his own manufacture.

Mr. Bingham then read the following essay on "Cheap Honey:"

CHEAP HONEY.

Many have been the reasons assigned for the steady decline in the price of honey.

Mr. Moore says, "the proceedings of the National Society ought to be sown broadcast, especially to small bee-keepers, who have but little honey. They throw their honey on the market for just what they can get, and in that way spoil the market for large producers.

Mr. Heddon thinks that Prof. Cook's course, in the same convention, would be the ruin of all the small bee-keepers; yet Mr. Moore, Prof. Cook, and Mr. Heddon wish to accomplish the same end, namely:—Keep up the price of honey. In the matter of price for honey, no standard can be fixed by the conventions or associations. Bee-keepers may strive to limit productions, monoploize the business and look wise, but that mighty force, known as the "omniverous stomach," will be the important factor, and dictate the price.

The tendency of the honey market has been entirely in the direction of the consumer, and the producers do as others have done in other things having a fancy price,—namely: Shift from one expedient to another, in the vain endeavor to keep up the price.

The plan now having its run, like measles and whooping-cough, is to keep up the price by making the packages smaller.—This plan may succeed; candy has always paid a fine profit in net packages of half ounces each, at the standard price of a cent per stick!

Who is the coming man, to bring forth one cent packages of honey, having tin corners, and glass sides, and richly embossed?

Don't laugh! Nothing is ridiculous, after you become accustomed to it.

In the persuit of that once popular silver dollar, men see something that they covet, but do not want to steal; no, it would not really do to steal,—at least until the way had been oiled over, and texts quoted, opportunities surveyed, and duty, that plastic clay, carefully located.

He that steals my purse, steals trash; but he that filches from me the credit of my penny package steals that which doth not enrich him, but makes me poor indeed.

Mr. Overmayer, of Sandusky county, Ohio, had marketed 10,000 lbs. yearly. He put it up in all kinds of packages, but principally in the gem jars, which he sold for 50 cents. He sold none to grocers, but his neighbors and the people around took all he could make. He said his bees had averaged him a

hundred pounds a swarm. From 5 colonies he got 725 lbs. of honey, and increased his colonies to 35. But he had to feed them after the flowing season.

Mr. Butler, of Jackson, claimed that he could not extract honey without injuring more or less of the brood. He would not dare to extract as closely as Mr. Overmayer had said was his practice.

The Secretary had said he had seen Mr. Overmayer extract the honey from a colony owned by a man near Toledo, and the operation was very successful; the cells were entirely exhausted; brood was not disturbed.

President Cook sustained Mr. Overmayer's views, and said he never hurt any brood in extracting. He also believed in feeding. He said he thought there was more in the talk of "foul brood" than in the reality. He didn't think foul brood would result from the use of the extractor.

Mr. Everett, of Toledo, asked if there was not danger of extracting too close from a two-story hive.

Mr. Overmayer said in case of a two-story hive he would extract the upper story first and then change positions.

Mr. Bingham said that in Michigan it would not do at all to throw out the honey as closely as Mr. Overmayer had done.

Mr. Bingham moved that each gentleman present hand in his name, place of residence, number of colonies he had last spring, number of colonies now, honey, box or extracted, raised during the season, and amount it was sold for. The motion was adopted.

COMB FOUNDATION.

The President opened the discussion of this question by a few remarks, and said he used artificial comb foundation with great success. The great trouble with it is that if filled it would "sag," and this objection must be met, and without doubt *would* be met. The remarks made at the National Convention on Novice's Foundation, by Mr. Newman and Mr. King, rather surprised him. He found that bees generally thinned out foundation if too thick.

Mr. Newman, editor of the AMERICAN BEE JOURNAL, said it was very certain that bees sometimes would *not* thin out the foundation, and if it was too thick it was unpleasant. But sometimes they would, and if the foundation could be thin enough it would be a great improvement. The matter of sagging was an objection. Capt. Hetherington, of New York, was experimenting with it, and had invented a plan for preventing it; he had found it a success so far, and if he continued to find it successful, he would make his plan public, but he was opposed to advocating anything till well tested and found to be absolutely successful.

Mr. Bingham thought there was no necessity for the use of the starters at present. He said drone comb could be easily cleaned by pouring over it water from a sprinkling-pot, and it made the nicest kind of starters.

Mr. Butler said the comb foundations were a perfect success with him. He had used large quantities, some thick and some thin, and thought there was no difference.—He thought a great deal of it for box honey, and never found any trouble in disposing of it, but never used it for brood purposes.

Mr. Bingham was not opposed to comb foundation. He thought it a success.

An essay was then read on Honey Plants, which will appear in the next JOURNAL.

Mr. Thompson, of Detroit, said he had much experience in raising mignonnette.—Feared it would be a failure at first, but when it did start it exceeded his expectations, as a bee plant. It continued to bloom from June 15 'till hard frosts.

Mr. Russell was elected Treasurer of the Society *pro tem.*

"What shall we wear," was the title of a paper by Mrs. L. B. Baker, of Lansing, which was read.

[This will appear in the next AMERICAN BEE JOURNAL.—ED.]

Dr. Whiting, East Saginaw, said most bee-keepers were discarding rubber gloves. The danger of being stung on the hands was very slight.

Mr. T. G. Newman, of Chicago, then gave the following address on

MARKETING HONEY.

Mr. President, Ladies and Gentlemen:

To meet with you on this occasion, and unite in the discussion of themes that interest every apiarist is indeed a pleasure,—the more so, because this association is one of the oldest and best on the continent; many names of its members being "household words" in thousands of homes—not only in this country, but also in Europe and Australia, and when, by means of that mighty lever—the printing press—we transmit to a World your "thoughts that breathe and words that burn,"—they echo and re-echo "to Earth's remotest bounds!"

The honey market is a subject that interests every apiarist. In order that honey may be sold readily, it *must be attractive!* Has it never occurred to you to enquire why bolts of muslin are labeled with lithographs of luscious fruit? Or why boxes of fancy toilet articles are adorned with lithographs of enchanting faces with bewitching smiles? Answers to such questions offer us instructive lessons that will pay for the learning! Manufacturers know full well that in order to have their goods sell readily they must be attractive! No matter how good the quality, nor how cheap the price—they must *attract* and *please the eye!*

To-day, Comb Honey is *the preference* for table use, and if we would cater to the public want, we must produce that article in the most attractive shape. This must necessarily be arrived at by growth! We could not jump at once to "the most desirable shape,"—but by steady, forward steps, we hope soon to approximate perfection!

The larger boxes of yore with many combs are rapidly going out of demand, and now it is difficult to dispose of those having more than 2 or 3 combs, at any price.

As if "sniffing from afar" the breezes of public opinion, Mr. Harbison invented the California sectional frame, and placed carloads of honey upon the market in it. These were readily accepted, and but for the following reasons would soon have become general:

1. Though readily divided by grocerymen, it puzzled them to devise means to pack such combs without side protection with other goods, and deliver to their customers without seriously damaging them.

2. In the retail stores, not being protected from dust and dirt, honey in these frames soon became unattractive to consumers.

But again invention comes to the rescue, putting upon the market single-comb frames, so constructed that they may be easily glassed when taken from the hive

and packed in a neat and cheaply constructed crate, containing a dozen combs. Such crate and boxes I have here for inspection, with a box of teasel honey.

In a shape similar to this, Capt. Hetherington has this year put up 75 tons of comb honey, and sold it for $30,000.

In a shape similar to this, C. R. Isham sold his crop at 25 cents per lb.

In this shape N. N. Betsinger sold his crop at handsome figures.

In this shape G. M. Doolittle sold 10 tons of comb honey to Thurber & Co., New York, and was awarded the $50 Gold Medal for "the best honey in the most marketable shape" at the meeting of the National Convention in October.

No product of field or farm varies so much in price as honey; and why? Because the unattractive manner in which some put it upon the market causes it to be classed as a second or third rate article.

A trip through Water street, Chicago, last week revealed the fact that white clover, comb honey was quoted at different stores, all the way from 14 to 22 cents; the price being governed by the style of the packages, and manner of putting up for the market.

In Thurber & Co's. Price List for Dec. 6, 1877, we discovered that comb honey, of the best grade, was quoted at 25 cts. per lb, in the Prize Box and Crate, while the same honey in 3 comb boxes was quoted at 21 cts. These are facts that need no argument.

The "Prize Box" and "Crate" should be made in manner, form and substance like the sample before us. The box is 6 in. high and 5 in. broad, and when packed in the crate, stands upon its top-bar, for safety in sending to market. The lumber of the box is ⅛ and ¼ in. thick, and is sawed smoothly; with the cover, sides and ends of the crate planed, in order to make it the more attractive.

Heretofore, I fear, we have been "measuring ourselves by ourselves," too much.—We have copied each other in the matter of marketing—instead of enquiring of our wholesalers, our retailers and our consumers what their needs and preferences were. Only in the latter way can we expect to arrive at a correct conclusion.

The demand will doubtless increase a hundred-fold! It only requires to be attractively put up, to find ready sale at good prices. Nearly all the desirable honey is now disposed of,—that which remains unsold is mostly the unattractive. If we can but meet the requirements of consumers, there will be no trouble to sell all the honey that can be produced on this continent.

Dr. Whiting, Saginaw, indorsed what had been said, and remarked that it was his chief object in coming to the convention to see that this point was fully discussed. He had put up his honey in cases, but sold for seventeen cents. When he saw the honey put up in a different case, no better honey than his, and sold for twenty-five cents, he couldn't stand it.

After a quartette by vocal singers, the President announced that at the last meeting a committee to report on

WINTERING BEES.

was appointed, and he expected Mr. Cheeny to be present, but read a letter from him to the effect that he would come if possible, but fearing he could not, he sent a paper he had written upon the subject, which will appear in the next JOURNAL.

Dr. Southard said to winter bees successfully you must have the moisture expelled, and he never succeeded even in a good dry cellar, but that packed in chaff on the summer-stand he has not two per cent. loss.

Mr. Butler said one important point has not been touched. It was the moisture in the hives. He had built a good, dry cellar, and had fair success; but the moving out and back was too much labor. Besides, if moved out the bees would fly out, and having been in the dark, they would come out as soon as they could see light, and many would perish and the hives soon become depopulated. This was the objection to cellar wintering. He had adopted the chaff method for the past six years with perfect success. He hadn't lost two per cent.

Mr. Benedict, from Bennington, O., said he he didn't think of taking special pains to house bees for winter except to save honey,

Mr. Russell, of Adrian, said he wintered his bees in his cellar, and experimented. He left some of the colonies in the cellar all winter. Others he took out in February and gave them a flight. After that they were very troublesome, and he had to keep carrying them out. Some he kept in just six months, and they came out best of all. He would winter a hundred colonies this winter, and would not take out one of them unless obliged to.

Prof. Cook said that he thought no bees should be carried out if they were quiet. He thought the 6th of April as early as pollen could be gathered.

Mr. Whiting said that care should be taken to have the comb warm when put into the cellar, otherwise moisture would gather in the hives. He gave the following rules for wintering bees:

1. A sufficient supply of good ripe honey.
2. Bees enough to cover the frames.
3. Good pure air in proportion to size of swarm, but no draft through the cluster sufficient to chill them.
4. Freedom from condensed moisture.

Mr. Butler said bees should never be left out till the hives became frosted.

Mr. Van Renssalaer, of Ottawa, Ohio, exhibited a model of a bee house, and explained it.

Mr. Bingham instanced a case of "freezing out" this fall. His neighbor, A. S. Weeks, had a colony in a 12x14-inch Quinby hive. It sat near the ground, and in November, when the the thermometer was fifteen degrees above zero, it frose to death. Mr. Weeks was one of the most reliable bee raisers in that section.

Mr. Southard gave his method for preparing boxes for wintering, as did Dr. Whiting. Both used straw and chaff.

Mr. Beal, of Macon, said he lost fifteen swarms, and there was not a dead bee in or about the hive, and plenty of honey, and still they had left for parts unknown.

Mr. Benedict said he examined a case of that kind, and found the honey watery and sour.

Prof. Cook said bees will leave for many causes in the winter, such as loss of queen, sour honey, or any disturbance.

Prof. Cook then read an article on the management of bees at the college, which will duly appear in the JOURNAL.

THURSDAY'S SESSIONS.

The following resolutions were passed unanimously:

Whereas, The All-wise Father has blessed the apiarists of our State and country with health and prosperity for the past year, and

Whereas, The people of Adrian have given us a kindly welcome, and

Whereas, Mr. A. H. Russell has spared no pains to make our meeting successful, and by his efficient labor, helped to make this one of the best meetings of our society, and

Whereas, The Central and Lawrence Hotels have shown their appreciation of our efforts and cause by offering reduced rates to our members, and

Whereas, The Quartette, oy their sweet music, has added to our enjoyment, and

Whereas the Adrian and Madison Grange and Sovereigns of Industry, have kindly

granted the use of their hall at very low rates for our deliberations, and

Whereas, The reporters of the Adrian Times and Detroit Free Press have aided in extending the influence and good of our deliberations, and

Whereas, The large delegation from Ohio have by their encouraging presence given valuable thoughts and suggestions during our discussions, and

Whereas, Our absent and able Secretary, whose inability to be with us we very greatly regret, has never spared any pains to make our meetings interesting and instructive, and who has done so much to give our society its proud position, and

Whereas, Mr. T. G. Newman, the genial and very able editor of that firm and "long-tried friend" of not only American, but of European, and even Australian apiarists, and which is ever alert to do us all good, giving our conventions and societies its fullest encouragement (would that it was in the hands of every bee-keeper), has done so much to add to the interest and benefits of this meeting; therefore,

Resolved, That our hearty thanks be tendered to God, the Giver of all Good; to the good people of Adrian, especially to Mr. A. H. Russell, and the proprietors of the Central and Lawrence Hotels, and to Mr. Everies and daughters; to the proprietors of this Hall; to the AdrianTimes and Detroit Free Press; to the gentlemen in attendance from our sister State, Ohio; to our absent Secretary, H. A. Burch; and to Mr. T. G. Newman; may he long continue at the head of the AMERICAN BEE JOURNAL, and that old BEE JOURNAL at the head of apiarian papers the world over.

HOUSE APIARIES.

Dr. Whiting, East Saginaw, did not think much of them; they were breeding places for moth, and their expense would preclude practical apiarists from indulging in them.

Mr. Bingham said Mr. Burch had lost his house apiaries by fire, and he had not rebuilt them. Actions spoke louder than words.

Mr. Thompson, Detroit, had visited Mr. Reno, in Illinois, who had forty colonies in a house apiary, and was entirely satisfied with it.

Mr. Russell had little experience in keeping bees in house apiaries, but did not like them.

Prof. Cook explained a house apiary, and said he contemplated building one at the Agricultural College next season, in order te experiment with the matter, and prevent stealing, from which they had suffered much the past season.

Mr. Bingham said men who had built house apiaries were not anxious to build others, and winter out of doors.

Mr. Russell had lost more bees wintered in his house apiary than in his cellar.

"CREATING A HOME DEMAND FOR HONEY."

was the next topic discussed by Mr. W. L. Porter. [This will appear in our next.—ED.

Dr. Southard said he found farmers ready to purchase extracted honey, if the packages were worth the money asked for them.

Mr. Benedict had no difficulty in selling all his honey in his immediate neighborhood.

Mr. Newman spoke of creating a demend in Chicago for good honey. One groceryman of his acquaintance had sold upward of 60,000 pounds since September.

Mr. Butler had disposed of 4,000 pounds of comb honey in Jackson this season before Oct.

Mr. Stearns, Adrian, thought consumers would prefer the extracted to the comb honey if they knew they were getting genuine honey. Extracted honey should not be held at higher rates than maple syrup or clear syrup made from white sugar.

Prof. Cook said Mrs. Baker had created a market in Lansing, and she now found it impossible to supply one grocer all he could sell.

The following resolutions were adopted:

Resolved, That we favor increased pains among our apiarists to make all honey attractive before putting it on the market.

Resolved, That we advise our apiarists to encourage the market for extracted honey.

Resolved, That we advise the securing of surplus comb honey, in small sections or frames, with glass over faces.

THE ELECTION OF OFFICERS

resulted as follows:

President—A. B. Cheney, Sparta Center, Kent county.

Vice President—A. H. Russell, Adrian.

Secretary—W. L. Porter, Northville, Oakland county.

Treasurer—Dr. Whiting, East Saginaw.

On invitation of the Treasurer elect, the next semi-annual meeting was ordered for East Saginaw, the second Wednesday and Thursday in April next.

APPARATUS.

Dr. Whiting, chairman of the committee on apparatus, reported the following on exhibition:

Hives, by the following: A. H. Russell, Adrian; John Randall, Lenawee county; J. N. Becker.

Smokers: The Bingham, Quinby, Root, and Van Rensselaer. [The committee decided no to recommend anything—but will say the Bingham smoker suits them best.]

Honey Boxes: The Isham, Doolittle, Hetherington, Russell, and Southard & Ranny.

Crates: The Hetherington Crate, and the Southard & Ranny Rack.

Honey in Boxes: White clover from Miss Lucy H. Wilkins, A. H. Russell, Southard & Ranny; Teasel from T. G. Newman.

There were several models, &c. All of the apparatus were inspected by those present, and added much to the interest of the Convention.

FANCY SYRUPS.

Just before adjourning for dinner, Mr. Bingham requested that one of the topics for d scussion immediately after dinner be fancy Syrups, known as Silver Drips, Golden Drips, etc., sold by all grocers, and used largely on pan-cakes. He requested that Mr. Russell furnish for illustration some best Japan tea, and such samples of syrup as he could find at any of the groceries.

Upon assembling, the tea and specimens of syrup were produced. After being mixed, the mixture was shown and compared with the original tea and also with the syrups. The result was simply startling. The light amber tea was turned as black as ink by the silver and golden drips.

Mr. Bingham then explained the cause of the change in color, and stated that it was due to the sulphuric acid contained in the syrups, which were in the main obtained from corn-starch, treated with sulphuric acid, and known as "glucose," sweetened with New Orleans and other grades of molasses or granulated sugar, as might be desired to bring the syrup to a given shade and price. Mr. Bingham stated that this subject had been taken up by the State Board of Health, and the sale and use of said syrups condemned as detrimental to the public health.

In accordance with said decision, the convention requested that a committee of three be appointed to bring the subject before the legislature at its next session, praying that this most pernicious adulteration, so seductive in its form and baneful in its consequences, should receive such condemnation as such evil demands. The President appointed the committee as follows: T. F. Bingham, Abronia; Dr. L. Whiting, East Saginaw; James Heddon, Dowagiac.

Mr. Butler, of Jackson, read a paper on "What shall we do with our surplus stocks?" This will appear in the next A. B. J.

The Convention adjourned to meet at East Saginaw, April 9 and 10, 1878.

A. FAHNESTOCK, *Sec'y, pro tem.*

[Questions with answers and a statistica table will appear in our next issue.—ED.]